

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1923, No. 1

DIAGNOSIS AND TREATMENT *of* YOUNG SCHOOL FAILURES

By

HELEN THOMPSON WOOLLEY

and

ELIZABETH FERRIS

Prepared under the auspices of the Helen S. Trounstein Foundation, Cincinnati
constituting No. 8 in the Foundation's Series of Social Studies



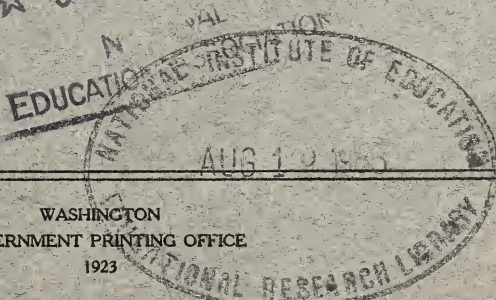
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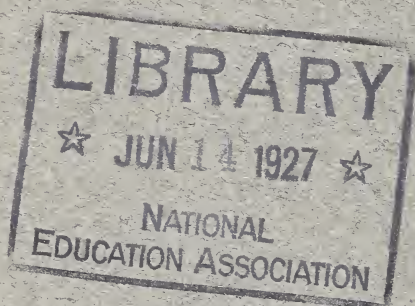
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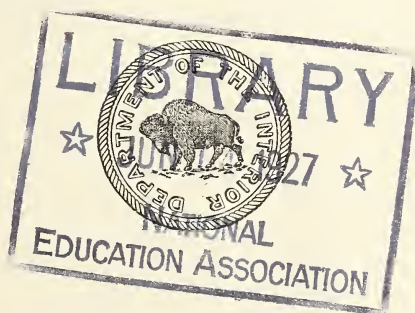
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PREFACE.

It is difficult for those actively engaged in educational and social work to find time to cast the results of their projects in a form which makes them available to others. To follow up and reexamine individual cases of special interest over a time sufficient to permit one to speak with some confidence regarding the outcome, and to collect and formulate all of the findings for publication, mean a consecutive effort and an expenditure of time which are seldom possible for the busy executive. The Helen S. Trounstine Foundation of Cincinnati has, as one of its chief purposes, the furnishing of additional aid which will make it possible to gather up and interpret to the public the work of educational and social agencies which have no resources to do it themselves. The foundation sometimes furnishes the time of a worker of its own, and sometimes frees the time of the executive in charge to complete the preparation of studies for publication. In the present instance, the foundation made it possible for me to take enough time from other duties to work with Miss Ferris in preparing for publication this study of first-grade failures. This was especially appropriate because the most absorbing interest of Miss Trounstine, as a memorial to whom the foundation was established, lay in the solution of the many problems affecting child life and in the promotion of constructive activities for child welfare.

The piece of work reported in this bulletin required the interest, support, and cooperation of a large number of people. It was the outgrowth of the work of the psychological laboratory of the vocation bureau of the public schools of Cincinnati. The laboratory exists as the result of the combined efforts of the Council of Social Agencies of Cincinnati, of which C. M. Bookman is the director, and the public schools, of which Randall J. Condon is the superintendent. The laboratory was founded, in the first place, by a private fund raised for this purpose through efforts of M. Edith Campbell, of the Schmidlapp Bureau of Cincinnati, and E. N. Clopper, of the National Child Labor Committee. Later the fund was taken over in the centralized budget campaign of the Council of Social Agencies. A substantial portion of the expense of the laboratory is still borne by the Council of Social Agencies, though the board of education has assumed a share of it. Without the cordial support of both Mr. Bookman and Mr. Condon the work could not have been undertaken.

The assistant superintendents, Edward D. Roberts and Anna E. Logan, have given the project the continued benefit of their interest and support. Prof. Frances Jenkins, of the department of education of the University of Cincinnati, who has in charge the supervision of instruction in the special classes of the school system, has kept constantly in touch with class and teacher and been continually helpful in her criticism and suggestion. Mr. E. C. Trisler, principal of the school in which this first class was conducted, was one of the first to see the need for a class of this type, and from the start urged its establishment in his school. His interest and cordial cooperation have been unfailing. Mrs. Alice A. Foster, our home visitor, has kept as closely and as helpfully in touch with the homes as the press of work would allow. Finally, the laboratory assistants who examined the children, and the social workers of the city who gave us the benefit of their experiences with some of the families should each be mentioned by name if space permitted.

In the writing of the book I have been responsible for the final form of all of it except the section on "Methods of teaching," which was written by Miss Ferris. In making the case studies, Miss Ferris furnished a written statement of the progress of each child in the class and of her judgment of him, which was largely drawn upon in writing up the case. The final prognosis about each child was written separately by Miss Ferris and me and the results compared. The extent to which the two judgments coincided was so great as to be a surprise to both authors. No important differences of opinion with regard to probable future development were found.

In preparing the bulletin, we have hoped to interest both teachers and social workers. Although the number of cases presented is small—only 16—the background of experience from which they are judged is very large. This group has merely the advantage of the longest period of observation. While the larger group furnishes endless variety of detail, we found in it no cases which could not be classed in one or another of the subdivisions of our little group of 16. The 16 cases seemed to us so typical of much larger numbers and so valuable as illustrations of the kind of knowledge needed to understand children's difficulties, and the kind of resources essential in finding solutions, that we have set them forth without apology for the small number. If we have helped in defining some of the types of cooperation between the school and the community, which must be further developed if educational problems are to be solved, our purpose is accomplished.

HELEN T. WOOLLEY.

CINCINNATI, OHIO, *September 1, 1921.*

DIAGNOSIS AND TREATMENT OF YOUNG SCHOOL FAILURES.

INTRODUCTION.

This bulletin is a report of one of those side issues, or by-products, of a piece of scientific work which often proves to be more important than the main issue. When, in 1916, the psychological laboratory of the Vocation Bureau of Cincinnati was given an official position in the public-school system, the first task assigned it was that of diagnosing defective children and transferring them to classes for defectives. The laboratory was quite aware that it would be performing its most important service in this respect by selecting the children for the special classes as young as they could be definitely diagnosed, and while there was still time to train them. Although at that time no statistical study of the matter had been made, we knew that the diagnosis of most defective children was postponed too late both for the good of the child and for the good of the school. It is when several successive years of failure have made the children noticeably overage for their grades, and many of them begin to be troublesome in behavior, that they become pressing as school problems and are apt to be recommended for special classes. A study has since been made¹ of all of the children who had, up to 1918, left school after being enrolled in our classes for defectives. It showed that over 80 per cent of them were 12 years or more of age when they were first assigned to special classes. The average length of stay in the special class was only a year and a half, quite too short a time to give the special school an opportunity for training. Meanwhile, repeated failures and unnecessary conflicts with authority had made the children much harder to train than they would otherwise have been. Realizing this state of affairs, even before the statistical proof of it was available, the laboratory began its policy of urging teachers to recommend for examination children in the first and second grades whose academic failure was bad enough to lend any color to the suspicion of mental defect.

In the early part of the year 1917 many of these first and second grade failures were examined. Among them were found some whose

¹ Feeble-minded ex-school children, by Helen T. Woolley and Hornell Hart. Studies from the Helen S. Trounstine Foundation. Cincinnati, 1921. Vol. I, No. 7, pp. 237-264.

school failure was almost complete, but whose mental tests were above the limits usually set for mental defect. These children constituted for the laboratory a group of unusual interest. Here, apparently, were the avoidable failures, or the merely backward children who might be started early upon a suitable type of training. The school system of Cincinnati had already provided a special school called an "opportunity school" for children from the third through the sixth grade who were as much as two years retarded. For several years no other conditions for acceptance to opportunity classes were set down. A mental examination of the children in the school showed that under this plan many feeble-minded children were assigned to opportunity classes. Accordingly, the requirement was made that only children who were recommended by the psychological laboratory could be assigned to opportunity classes. Most of those assigned under this ruling were children who were below average in ability, but were above the limits of defect. A few children were discovered who were average or even somewhat superior, and who were nevertheless retarded in school. These were also assigned to opportunity classes with the idea that they might make up what they had lost, and be returned to the grades appropriate to their ages. The children in the first and second grades whom our survey revealed were of the same type as the opportunity-class children, but were being discovered younger when the hope of retrieving their failures was greater.

The psychological laboratory was quite aware that the younger the child the more difficult to make a final and positive diagnosis of his status. The children in this group, while they were alike in being school failures whose present mental status seemed above the limits of defect, were nevertheless widely varied in disposition, in home conditions, and in physical condition. The only definite conclusion to be drawn was that here were children whose school failure was apparently due to causes other than mere mental inability to do school work. Just what the cause might be in each case and whether or not the failure could be retrieved were matters for further study. To meet the situation, the laboratory recommended the establishment of classes for further study and observation of these children. The purpose of the classes was first of all to complete the diagnosis and come to a decision as to the cause of the failure. If the failure proved to be of the type which could be retrieved, the next step was to retrieve it and return the child to a regular grade, ready to play his part. If the failure were due to causes which could not be removed, the task was to determine the type of defect present and assign the child to the class in the school system best adapted to his needs. Provided no suitable class were in existence, the final

task was to urge upon the school system the establishment of additional types of classes which would meet the situation.

From among the children examined in the early part of 1917, the laboratory selected a group of about 15 and recommended to the superintendent of schools that they be organized into a diagnostic class of the type outlined, to be called an "observation class." The superintendent approved the suggestion and the class was organized in September, 1917. The term "year" throughout the report refers to the school year, from September to June.

The selection of a teacher for a class of this type is a matter crucial to the success of the experiment. The desirable qualifications are experience with both normal and defective children, resourcefulness of method, a sympathetic spirit, endless patience, and a knowledge of social problems as well as of educational ones. With the assistance of the superintendent of schools and the university supervisor of special classes, Elizabeth Ferris was chosen to conduct the first class.

The contents of this bulletin will be a somewhat detailed report of the first observation class of 16 children, and the history of each child down to the summer of 1921, together with the general conclusions which can be drawn from our four years of effort and continued observation. Small as the number of cases is, we believe that within this little group are found all of the types of problem children which the primary-school teacher is apt to encounter. If by telling as completely and vividly as we can the early school histories of these poor little neglected, thwarted, anxious, injured children, with their limited endowment, their physical defects, their home difficulties, and their warped personalities, we can help some teacher or social worker to understand the little failures she is trying to help, the result will amply justify all our efforts.

CONDITIONS OF THE EXPERIMENT.

In presenting this account of our experiment with an observation class we are under no illusion as to its imperfections. It seems worth presenting, not because it constitutes in any respect a model, or pictures conditions which can be considered ideal, but because it tells a real experience of what can be done for certain types of young school failures by employing only the very imperfect resources at the command of most city school systems. The imperfections are only too apparent. To carry out ideally such a piece of work as that reported here one should have had facilities for complete medical examination of every child, including the standard laboratory tests of blood and urine and X ray; means of carrying out the resulting recommendations for removal of tonsils and adenoids, special feeding, treatment of teeth, antisyphilitic treatment, or whatever the recommendation might be; the opportunity for good social investigation and case work treatment of each family; and the chance to make the schoolroom environment ideal and the schoolroom equipment adequate.

Our actual resources in every instance fell far short of the ideal. Physical examinations were made by a busy school doctor who had no provision for any type of laboratory examination. To be sure, he might in some instances have secured laboratory tests by reference to hospitals and clinics, but this is a time-consuming method which he did not and probably could not under the conditions follow. There was no way of compelling treatment even of those defects discovered in this cursory type of examination. A report with recommendation was sent to the family, reinforced by the teacher's earnest advice, but it was rarely heeded by the careless, ignorant, overburdened parents of the children.

Before the class opened, Miss Ferris was given time to visit the home of each child, make the acquaintance of the parents, explain the purposes of the class to them, and find out what she could of the personal history of each child and his social and educational background. Such a visit did not, of course, constitute a social investigation of the family. The staff of the psychological laboratory possessed one home visitor who did what she could to keep in touch with the homes and report changing conditions, but was totally unable to undertake family case work. Some of the families were under the care of social agencies, but it is scarcely possible for the school

as a public agency to refer families for social treatment to private organizations, unless the family desires it.

Even the schoolroom environment was far from good. The class was first established in a very old school building with few conveniences. However, the room for this class was freshly tinted and made attractive by the addition of white curtains, pictures, and some beautiful plants which Miss Ferris brought from home. This comparative paradise was of short duration. The Government took over the building for a training school for soldiers. The only other room available in the district was a temporary one-room building in an unattractive paved back yard of a crowded school. There was nothing in sight but dirt and ugly brick walls. The room had to be heated by a stove, with the usual result that part of the children were toasted while the rest shivered, and the teacher had to struggle with keeping up a fire and contending with coal dirt in addition to the already huge supply of Cincinnati grime. The lovely plants were allowed to die for lack of care during the Christmas holidays, in spite of the fact that the janitor had been offered generous pay to look out for them. There was no chance to wash hands and no toilet facilities in the building; for these things children had to cross the yard to the main building. A freshly tinted wall and some curtains did their best to lend a cheerful aspect to the otherwise forbidding room. It was usually possible to secure the special materials for teaching, though not always.

The second year of the existence of the class (1918-19) was the year during which the terrible epidemic of "flu" swept the country. In an effort to help prevent the spread of the infection, the schools of Cincinnati were closed for weeks at a time. For children like those of the observation class, who were just getting under way with school work, the loss of time proved to be so serious a check as to cause another year of failure for most of them. In addition to loss of time, the war spirit proved to have an unfavorable influence on school progress. Many of the children had close relatives in the Army, and most of them suffered from the disintegrating atmosphere of excitement, uncertainty, and dread which was prevalent at home.

SCIENTIFIC METHODS AND STANDARDS.

The mental test records reported in this study are scattered through the period from November, 1916, to August, 1921. The determination of mental age was made by the Stanford revision of the Binet scale² in every instance except two, in 1916, in which the Yerkes point scale³ was used. There has been no such consistency about the other tests used. In no instance has a diagnosis been made with the help of the Binet scale alone, but the supplementary and performance tests used have varied with the type of child under examination, the standardized tests available at the time the examination was made, and the time at the disposal of the examiner. The chief sources of norms have been as follows: For the tests included in the Pintner and Patterson performance scale⁴ we have used the norms furnished in the manual since the time of its publication. Before that we used the norms furnished under the direction of Gertrude Hall, by Marion Collins⁵ and her coworkers, in the bureau of analysis and investigation of the State Board of Charities of New York, for the following tests: Construction puzzles A and B, and Healy picture completion No. 1. For norms for the substitution, Healy picture completion, Ellis object memory, and cancellation tests, we are indebted to Joseph Hayes and Evelyn Dewey, who furnished us with copies of their results long before the publication of the book⁶ which embodies them. The norms for the easy list of opposites (bad) were not considered satisfactory by Mr. Hayes and Miss Dewey, and are not included in the published report of their work. They did, however, furnish a rough guide which enabled us to judge whether a child's performance was very defective for his age, approximately normal, or very superior. Results of the use of the easy opposites tests, reported by Marion Collins⁵ and by Clara Schmitt⁷ were also helpful in fixing approximate norms. For the Seguin form board we used the Wallin⁸ norms. For the

² Terman, Lewis M. *The measurement of intelligence*. Boston, New York, Houghton Mifflin Co., 1916, xviii + 362 pp.

³ Yerkes, Robert, Bridges, James Ward, and Hardwick, Rose. *A point scale for measuring mental ability*. Baltimore, Warwick & York, 1915. viii + 215 pp.

⁴ Pintner, Rudolf, and Patterson, Donald G. *A scale of performance tests*. New York, London, D. Appleton & Co., 1917. ix + 217 pp.

⁵ Collins, Marion, and coworkers. *Eleven mental tests standardized*. Albany, N. Y., Bureau of Analysis and Investigation of the State Board of Charities, Gertrude Hall, director, 1915. (*Eugenics and Social Welfare Bulletin* No. 5.)

⁶ Dewey, Evelyn, Child, Emily, and Ruml, Beardsley. *Methods and results of testing school children*. New York, E. P. Dutton & Co., 1920. xii + 176 pp.

⁷ Schmitt, Clara. *Standardization of tests for defective children*. Princeton, N. J., and Lancaster, Pa., Psychological Review Co., 1915. (*Psychological Monograph* No. 83, p. 112.)

⁸ Wallin, J. E. Wallace. *Age norms of psychomotor capacity*. *Journal of Educational Psychology*, 1916, pp. 7, 17-24.

Trabue⁹ completion test, Porteus¹⁰ tests, and Healy picture completion test No. 2 we used the norms furnished by the authors.¹¹ The standardizations of the group tests were made in our own office and are valid for Cincinnati, though not always in exact agreement with the norms at that time furnished by the authors of the scales. The graded opposites test used is one made up and standardized in our office.

The educational tests used in the early part of the work were some informal ones made up in our office, based upon the reading and arithmetic current in each grade. Since the beginning of 1920, the educational tests used were Gray oral reading, Woody fundamentals of arithmetic, and Ayres spelling. In a few of the latest examinations the Monroe silent-reading test was added.

The mental examinations, both group and individual, were all made by the psychological laboratory assistants of the vocation bureau, working under the supervision of the director. These assistants, in addition to their university training, were all trained in the laboratory, to secure uniformity of method, before being allowed to examine children. The examinations themselves were all of a more or less routine type. In no instance was a prolonged and repeated examination of the reactions of a single child made. The volume of work thrust upon a public-school laboratory is so great that it is very difficult to find time and opportunity for detailed and exhaustive study of the individual case. In a few instances the Stanford test was given at the school, but for the most part the entire examination was made at the laboratory of the vocation bureau. The group tests reported were given, not for the benefit of these children but in the course of a general examination of the school or grade. We have taken advantage of them where they exist, but have made no attempt to complete them for the group.

Aside from the data thus consciously and intentionally collected, the records of the vocation bureau furnished supplementary information bearing upon our children, which we have also included in this study. It consists in facts about other members of their families—brothers and sisters and close relatives—recorded in the laboratory, the attendance department, the employment certificate office, and the placement office. The juvenile court, the Ohio Humane Society, and the Associated Charities also furnished information of value.

⁹ Trabue, Marion M. Completion—test language scales. New York, Teachers College, 1916. ix + 118 pp. (Contributions to Education No. 77.)

¹⁰ Porteus, S. D. Porteus tests: The Vineland revision. Training School Publ., Dept. of Research, 1919. No. 16, 44 pp.

¹¹ In preparing the manuscript for publication, tests have been graded on the norms furnished by Pintner and Patterson, and by Dewey, Ruml, and Child wherever they were available.

ANALYSIS OF THE GROUP.

The children in the class of 16 varied in chronological age from 6 years and 7 months to 10 years and 4 months. Only one was under 7; seven were between 7 and 8; one was between 8 and 9; six were between 9 and 10; and one was between 10 and 11 years. Not one of these children had accomplished as much academic work as that prescribed for the first grade, although six of them had spent some time in the second grade, and one was in the third. All of the children had behind them a background of academic failure, but for some of them the period of continued failure had been long enough to have a decided effect on self-confidence and attitude toward school work.

The intelligence quotients of the first test varied from 75 to 95. There was one in the range 75 but below 80; five who were 80 but below 85; eight who were 85 but below 90; one who was 90; and one who was 95.

While the children are very individual and resist being pigeon-holed, nevertheless they may be grouped under four heads, according to what proved to be the dominant cause of the difficulty: (1) Children who were neglected; (2) those who were high-grade defectives, though their intelligence quotients were still above the usually accepted limits for defect; (3) those with special defects which seemed to make the acquisition of a given type of knowledge unusually difficult; and (4) the psychopathic.

The distinguishing marks of these groups were as follows:

1. NEGLECTED CHILDREN.

The children of this group had failed chiefly because of lack of opportunity. They had been absent too much, had moved about, or had lived in home conditions so bad and so distracting that it was impossible to do normal school work. Although it was out of the power of the school to remedy most of the conditions which had contributed to the failure of these children, nevertheless by securing regular attendance, giving the personal attention possible in a small class, and above all by surrounding the children with a school-room atmosphere of encouragement and a real spirit of endeavor, it proved possible to make up at least part of what they had lost and return them to regular grades in which they were not much over age. None of these children were endowed with great native capacity. Had they been, they would probably have succeeded mod-

erately well with school work in spite of their handicaps. The important point is that their capacity was sufficient for a moderate success in school work in spite of handicaps, provided the school were able to furnish the most favorable conditions of instruction. Nine of our children have been classified under this head. (Cases 1 to 9, inclusive.)

2. THE HIGH-GRADE DEFECTIVES.

The children of the defective group, although their intelligence quotients were at the time of the first test above the usual limits of defect, failed to respond to instruction with even a normal rate of progress. They learned more, needless to say, than they had in a large class with no individual attention, but they proved unable, even with the most skilled teaching, to progress as fast as the usual grade a year. Successive tests showed a falling intelligence quotient. Four of our children have been classified under this head. (Cases 10 to 13, inclusive.)

3. CHILDREN WITH SPECIAL DEFECTS.

These children prove to have difficulties with some one subject far greater than those of most children of their intelligence level and greater than they themselves had with other subjects. This type of handicap can be to some extent overcome, though it is doubtful whether the difficulty will ever disappear completely. Both of the children classified in this group have a history of serious diseases affecting the nervous system, which may have been the cause of the trouble. (Cases 14 and 15.)

4. PSYCHOPATHIC CHILDREN.

The psychopathic children constitute the most difficult and, fortunately, the smallest group. In spite of what seems an adequate intelligence, in spite of occasional flashes of genius, these children fail to learn normally and remain erratic and difficult to manage in the classroom. They do not belong in any class at present maintained by the public schools. Only one of our children has been classified under this head. (Case 16.)

METHODS OF TEACHING.

The methods used in teaching the children and the types of reaction to instruction will be described in Miss Ferris's words.

The normal children in this group failed partly because of non-attendance. The problem of helping these is simple. Induce, compel, if you must, their parents to send them to school every day, encourage them to forget their failure, set them at work with freedom and a little wise direction, and they will take care of themselves.

The abnormal children failed because of (*a*) sluggish reactions, (*b*) lack of power to sustain attention, and (*c*) inability to retain impressions.

All three defects may have their roots in lack of native interest. To give undivided attention to the uninteresting and to remember it will tax the mental powers of a brilliant mind.

But in many cases, it seems to me, the interest is there, but continually baffled by one or even all of the defects named above. The little unfortunate may have concentrated his powers just too late to grasp the instruction from the beginning, and presto! change! the alert children are ready, are gone to work knowing what to do and how to do it, and he sits dismayed, too late to finish now, even though the teachers should patiently try to help him—failure again, and no fault of his own!

Or, the mind may eagerly grasp the beginning only to stray away and lose itself. Again, it may respond promptly, sustain attention, only to lose the impression received within the hour.

These repeated discouragements may result in the subconscious wish to forget, at least not to recall these so distastefully associated things. For this reason, among many others, the earlier a special child finds his way into a special class, the better for him. Among my children it was easy to see that the negative will was strongest in those who had spent the greatest number of days in the humiliation of failure.

These, then, are the things to be taken into account in planning academic work for such children: Slowness of response, lack of power to sustain attention, inability to retain impressions, possible lack of native interest, and from one to four years spent in failure resulting in discouragement.

The work was made as concrete as might be. To do something and to have to know a certain thing in order to do it—that is, to

create an immediate necessity for a certain bit of knowledge—was a favorite way of giving instruction that helped to quicken the sluggish. For instance, "Choose partners, and each partner find out how tall the other is." Only one or two had any idea of measuring, but these were quickly imitated. What a necessity for the use of rulers, the knowledge of feet and inches, the whole process of measuring. Then, "Tell all about it!" brought some careful and enjoyable talking. "Read it from the board!" and they noticed it now for the first time and read easily, each one filling the blanks to accord with his own specific facts: "I measured _____. He is _____ feet _____ inches tall. _____ measured me. I am _____ feet _____ inches tall. I am _____ inches taller than _____. He is _____ inches shorter than I."

Interest being still at white heat they wrote the above, glancing naturally at the class list on the board for the needed name. A few days later, choosing different partners they had a similar lesson and wrote about it, referring only to a list of words for the spelling but constructing their own sentences. Later a spelling lesson contained these words: Measured, inches, feet, taller, shorter, than. After another measuring lesson there were no lists on the board, but the record of what they had done was happily, because independently, written. Thus arithmetic, language, and spelling of words, informed with pleasurable meaning, were all mixed up with a jolly bit of social life. The absurdities resulting from mistakes were funny, but not humiliating; still no one cared to say the second time "10 feet" when he meant "10 inches."

For sustaining attention, lessons involving a sequence of any kind, as the number names from 1 to 100, the families of numbers, or anything which comes easily and naturally without copying is the best material. A very small spark of interest, too, may be fanned to a flame by a *long* piece of work. Only be sure that the teacher sets no limit; leave that to the child—he will be almost certain to try to surprise you, and in so doing will find pleasure in persistence.

How to secure enough repetition to fix those fleeting impressions and still keep it enjoyable is a problem indeed. But the weariness, fortunately, is almost altogether for the teacher, for the child finds freshness each time the forgotten thing is renewed. Choosing his own way of learning, resorting to auto drill, going to different pupils for tutoring until he has perfected his undertaking—these are some of the things he may do.

The constant effort of the teacher was to find ways in which the children could tutor one another in small groups. A sufficient amount of repetition, without undue fatigue, was best secured by this group method. For instance, in studying spelling, one child

in the group pronounced the word and the others spelled it aloud in unison, saying the word after spelling it. This was repeated five times while the successive spellings were told off on the fingers of the left hand. Then followed a short period of silence, after which the same process was repeated, except that instead of spelling the words out loud, the children whispered the spelling. On the third trial the words were not even whispered, but spelled in the mind alone. This type of exercise helps the children master the silent method of studying and gain a conception of a mental process as distinct from its expression.

For drill in writing, the words of the previous exercise were later used as follows: One child wrote one of the words from memory, and then quickly erased it. The rest of the group then wrote the word five times in a neat column. Then another child remembered and wrote another word, which was again erased, and then written five times by the group—and so on until all the words had been remembered and written in columns.

The children's names furnished a basis for group drill in phonics. At a time when each child knew his own written name, but not the names of his schoolmates, the teacher wrote the names of a group on the board, pointed to one of them, and asked some child to sound it out and then lead the child whose name it was to a certain place. This was repeated until they were all arranged in a line. Then one child went down the line, naming each child and then passed to the board and tried to read the list of names. If he failed to sound out the name, the child to whom it belonged stepped out of the line. A variation of the game was to have each child wear his name written large on a card and suspended down his back. Then when the reader of names at the board failed to get one, the owner of the name turned his back. The game was of value also in teaching proper names to the children. Their social relations were so casual that they were apt to play together a long time without taking the pains to learn names. They were quite content to address one another as "You kid with the red sweater," or "You girl with a blue ribbon."

Games in pairs were also devised. A pair of children took turns in writing words on the board to be named by the other partner. The words might be from memory or taken from a list on the board. Each time a word was correctly named, the child scored. The one with the highest score when 20 words had been written won.

An arithmetic game was played in pairs, with the aid of rather large colored sticks. One child constructed a problem with the sticks on the table. He arranged groups of tens, and placed the units separately. Thus IIIIIIIII IIIIIIIII IIIII was 25. Three two-place numbers were thus constructed and a ruler placed under

them. The second child then read the numbers from the stick construction and wrote them down in digits. The first child then added his numbers by sweeping them all together below the ruler and counting them, while the second one added the digits in the usual way, and wrote down the answer below the line. The two sets of results had to coincide. If they did not, each child went over the other's work to try to find the error.

Discouragement, that worst foe of both teacher and pupils, must be met by bright, warm optimism. A half playful but altogether convincing "Yes, you can!" will do wonders. Enthusiasm for every success, a hearty handshake over a perfect lesson, plenty of fun, and good times for everybody should mark the day. Anything that might wake some little sluggish weak soul and "lead it forth to take hold on the strength and beauty of life" should be taken into that schoolroom if it is possible to get it there.

Doubtless a special course of study is needed for special children, of the first two grades at least. The words of the basic text embodied in fresh stories would appeal and encourage. Supplementary books are the next best thing but not satisfactory on the whole. The great aim of all the lessons is to get these children to study—to get, not to receive. The teacher draws a long sigh of relief when she sees a child absorbed for the first time in study, in really reading a book, for she knows that for him the worst is over.

These are some of the methods and devices used in class instruction in 1917-18, given in detail:

Sometimes when an interesting object or event had been under consideration, the teacher would keep in mind some significant sentence and at the close of the discussion would say, for instance, "John said that the butterfly had lost its way and could not find Eden Park. Who can say that again?" After the sentence had been carefully repeated, a volunteer would write it on the board, all the pupils assisting in keeping the correct sequence of the words and sounding out the spelling of the new words. This work seemed for these children, to underlie the sensing of three things: The make-up of real words; the significant sequence of words; and the visible form of a real thought. In other words, the construction of a written sentence was for many of them their first laying hold upon the use (the purpose) of written words. Many of them showed sudden interest in phonics when they saw that this was the way to get a needed word, and all read very much more intelligently after acquiring ease in constructing—not copying sentences. The capital and the period also gave the introduction to form, so that this may be called a fundamental exercise underlying phonics, reading, spelling, language, and the purpose of written letters.

Here are some of the lessons which held the interest of these children well:

After showing books containing colored plates of beasts, birds, insects, and reptiles, and talking of their characteristics, these words were written upon the board, pronounced, spelled, and left for reference: Robin, Hen, Horse, Owl, Elephant, Dog, Bird, Beast.

The children classified the animals named, in good sentences, orally: "The horse is a beast," "The owl is a bird," and then wrote them. Simple as this seems, it requires constant vigilance against reflex writing of "beast" or "bird," real keeping in mind the characteristics—real imaging of the creatures. In later lessons insects and reptiles were added.

The same form of lesson is used with shape words, color words, size words, taste words, etc. These lessons should be used at long intervals.

A far better motivated lesson in color, however, and a favorite with the child is this: Have flags, each tagged with the name of its country, or failing this, colored plates of flags, or colored flags on the blackboard. Have these questions on the board read by the pupils, then answered by referring to the flags: What are the colors of our flag? What are the colors of the flag of France? Of Italy? Of Belgium? etc. Each answer must be a complete sentence. This means that each child must rise and pass to the flags to observe the tags, then record his observation. Color words should also be on the board, pronounced, and left for reference. This "telling the truth with the pencil" concerning the beloved flags is undertaken by the children with a reverent joy and carried out with childish devotion.

Memorizing verses and writing them from memory on the board, comparing and criticizing from the comparison with the poem in the book, was found very beneficial. This is for the most of the children, once they have learned to read, a veritable pastime.

Asking questions orally, while the class writes answers, and asking for help in spelling the difficult words is a good exercise. The teacher should always reply by sounding the words slowly and by writing them on the board if they are partially unphonetic. The questions should be really interesting questions. The children should enter heartily into a record of their experiences in answer to a question such as this: "What did you do after school yesterday?"

In teaching reading and spelling, the methods found most helpful were the following: The children memorized short poems, which were then written on the board. Word cards for all the words of the poem were prepared and the children picked out each word by a comparison with the board. The poem was constructed in this way with the word cards again and again, until it could be done inde-

pendently of the board. Then races were started to see who could construct the poem from the cards fastest. When the word cards had been fairly well mastered in this way, the "word card game" was started. The children gathered about a low table; and a child, who knew confidently all of the words, took all of the cards and threw one on the table. Whoever named the word correctly first got the card. Whoever guessed, that is, named the word wrong got a blank slip. When all the words had been given out, the one who had the most cards won, and the one who had the most blank slips was last, even though he may have taken more words than some of the others, for one must learn to look well before answering.

In another form of lesson sentences were built with the word cards by each child in turn for the other children to read.

After a few words had been mastered, we learned the letters. The old A B C song, which most children already know by rote, was written on the board and sung while the letters were pointed out. Then finding out the names of the letters in a word by reference to the rote song is great fun.

Learning the letters is one of the joys of child life. The pleasure of mastering the alphabet comes not from achievement alone. It is satisfaction of word hunger, the fitting of auditory and visible possessions of the rote song to those familiar marks elsewhere on the blackboard and in the books, i. e., giving names to familiar objects.

Curiously enough many of these children when they enter the class can not only copy script but can copy in good script and with surprising accuracy whole pages of print, not one word or letter of which they can name. One must wonder in what curious images they think while working at what is, for them, altogether devoid of meaning. And they seem to enjoy it! It was, however, one of the deadening things they were not permitted to do after the teacher discovered that it was meaningless.

Rote spelling aloud, that is, spelling words repeatedly until the succession of letters is fixed in the mind of the ear-minded child, may stand some luckless little fellow in place of memory of visual word forms.¹² Similar words, such as "has" and "his," have to be

¹² Two observations, one made by Mrs. Woolley, in the case of a very young superior child who was learning to read, and one by Margaret Drummond (*The dawn of mind*, London, Edward Arnold, 1919, page 167), in teaching a child somewhat similar to ours of the observation class, tend to confirm Miss Ferris's experience that rote spelling sometimes helps children through certain stages of learning to read better than other methods. The little 4-year-old superior girl went through a stage of learning in which she knew a great many words when she heard them spelled aloud, or spelled them aloud herself, which she could not recognize by sight alone. In her case, this stage of learning was of comparatively brief duration. Miss Drummond found, more or less by accident, that mechanical spelling aloud helped her pupil, who was a victim of injury of the brain at birth, more than any other method.

learned in this way by many of the children. These words are practically unphonetic for the child until he has mastered the short vowels and the second sound of s, but they are among the first words he must use. Children can and should get the spelling habit; it is natural. Even the nonsense syllables, such as "Eeny, meeny, miny, mo," satisfy a mental desire. Spelling a word orally, pronouncing it at the end, while looking at it until it is fixed, then spelling it five times aloud, turning down a finger for each time, is invaluable training for these children.

Some of the children are able to read a little when they come, but they do not care to read. Mental fatigue ensues in a few moments. For these there is nothing to do but read, read aloud, come to the teacher for the unknown word, receive her answer in phonics, or make out the word from the context in answer to her question. Reading aloud while all the rest are reading aloud seems to train the inhibitory powers and strengthen persistence as well as to interpret to the child the visual sentences whose meaning he can grasp only through the ear. Silent reading comes later, but it comes. In a short time the children who turn from a book in dreary helplessness read eagerly. The reading lesson, in which the child studies out and masters new words, should be short, but he should be constantly encouraged to read easier things at much greater length for pleasure. If his advanced work is in the second reader, he should be given a variety of first readers for amusement. In mastering new material, it is wise to read the story aloud first to the children. The process of acquiring new words from the context thus becomes much easier, and a word thus gained is delightfully illuminated for the child and more apt to be remembered. It is wise, too, to show the pictures before beginning to read, unless the children are to be asked to illustrate the story themselves. To know that they are to be asked to draw a picture of the story, which will then be compared with that in the book, elicits the closest attention to descriptions. An allied exercise is to read a story, telling the children that they will be asked to supply a title for it.

Word fitting, or memorizing a poem, then repeating it and pointing to each word as it is spoken, is one of the best sharpeners of the eyes. For instance, the little verse beginning, "Stop, stop, pretty water," is written on the board thus:

Stop	water	pretty
Stop	brook	bright
Said		running
Mary		
That		
Away		

The children recite the verse, pointing to each word as it is spoken. Placing words of equal length together in columns facilitates the finding of the word. The absurdities that would result from pointing to the wrong word make a merry game of this lesson.

A whole set of difficult words was mastered by the simple device of bringing them from subordinate to first place in a little story written upon the board and thoroughly enjoyed by the children. This is the story:

HARD WORDS.

Which are the hardest words we have had to learn, boys? "Could" and "would" and "should"; "have," "has," and "had" are pretty hard. But "which," "what," "who," "whose," and "when" are just as hard. "This" and "that," "these" and "those," "then" and "them" are hard, too. But we can get them all, can't we, boys?

In addition to the usual number work, we found the use of dominoes (real ones) beneficial. We have a set containing the numbers to 12, of which double 12 is the highest number. The children learn to recognize the numbers readily: The 3 threes for 9, the 3 fours less 1 for 11, etc. They also enjoy recording the number facts from them. Beginners read from the domino $2+1=3$. When asked to write this, they can not because they do not know how to make the figures. The necessity being created, the figures and signs are given them, and very shortly they are recording all the easier combinations. We also play the game of dominoes.

Carrying tens we teach with cubes thus: $6+5$. Six cubes are placed below 5 cubes; the 10 perfected, the remaining block is laid beside the 10, read $10+1=11$, and represented with figures, the pupil showing which figure means the 10, which the 1.

The work is carried up into addition of larger numbers in the same way as in $\frac{29}{32}$. The numbers are constructed with tens and units of cubes; the 10 is made of $9+2$ and placed above the 2 tens and added with the tens in the second column.

Number stories are told as the teacher writes the problem on the board thus: "A man had 5,368 sheep on a mountain. He sold 2,246 sheep; how many were left? Would there be more sheep or fewer sheep on the mountain?" The children answer, "fewer." Then what must we do to these numbers? The lower means part of the same sheep as the upper.

5,368 sheep on the mountain.

2,246 sheep sold.

sheep left.

They draw lines or use cubes to make the number families and then try to say them as rapidly as they can already say the fives and tens. This is a merry pastime.

In teaching writing, the letters were made very large, using the spaces between the lines of ordinary paper for spacing.

Drawing was taught by copying, coloring, and making illustrations for stories.

Gymnastics must be very simple. Many of these children have not as yet sufficient motor control for rhythmic movements except those of the most elementary type. Exercises involving slightly complicated rhythms, such as those given to third-grade children, proved to be beyond the powers of these children when they were tried with a third-grade group. Desirable as motor training would be, not much of it could be done under the conditions of our observation class.

One very helpful incentive to bringing certain essential things to perfection is this individual record. To have his name checked in the column as having absolutely mastered the bit of work indicated is triumph indeed. The record may be extended indefinitely. In all cases the habit stage is reached when the check is made. This is a small specimen.

Grade.	Names.	Sounds of 10 letters.	Sounds of all letters.	Counting by 2's.	Counting by 3's.	Spelling the "at" family.	Copying of verses.	Writing numbers to 100.	Spelling number words to 100.	Reading a story so well as to interest class.	Measuring 5 things accurately.	All the combinations to 10.	All the combinations.
III.....	Robert.....	.....	×	×	.....	.....	×	.....	×	.....	×	.....	×
II.....	Howard.....	.....	×	×	.....	.....	×	×	×	.....	×	.....	×
I.....	John.....	.....	×	×	.....	.....	.....	.....	.....	.....	×	×	×
Begin.....	Jetta.....	×	.....	.....	.....	×	.....	.....	.....	.....	×	×	×

CASE REPORTS.

In presenting the case reports they have been arranged in groups according to classification. The first set of nine cases comprises the children who were suffering primarily from neglect. The second set of four cases is composed of the defectives. The third set of two cases is made up of the sufferers from special defects, and the final set—one case—is a psychopath. Needless to say, the cases are not all clear cut. Some of the children in the first group are of very limited ability. Some of them, too, show signs of slightly psychopathic conditions. Some of the children classed as defective are also to some extent psychopathic. What we have tried to do is to make the classification according to what seemed to us the most important cause of failure, recognizing the fact that often there were other contributing causes.

CHILDREN SUFFERING PRIMARILY FROM NEGLECT.

CASE 1.

When first examined in February, 1917, at the age of 9 years and 5 months, Jean had a mental age of 7 years and 7 months; and an intelligence quotient of 80. Her physical condition was good. She was in the first grade and was a bad failure in first-grade work. In spite of her low intelligence quotient in her first test, the examiner was under no temptation to regard Jean as a possible defective. Her performance and supplementary tests were all above the level of her mental age on the Stanford revision scale. In Healy construction puzzle B she had a 13-year record, in the Pintner cube test a 10-year record, in picture completion an 8-year record, and in substitution and opposites an 8-year record. She had a competent manner, and a clear cut, practical knowledge of family conditions which gave a definite impression of ability above that suggested by test results.

The family had lived in Cincinnati but a short time and had moved here from Kentucky. Jean's account of her school experience in the South, later confirmed by her mother, showed that of the three years of supposed schooling, one had been spent suffering from malaria, and two in very irregular attendance at country schools where the term was short and the teaching at best very indifferent. Jean's own comment on her instruction was as follows: "They never

tached no writin' ner figgers; they just teached readin'." Her country life, however, had given her a background of experience with animals, plants, and out of doors that many of the children lacked, and which was a real advantage in understanding what she read.

Her teacher's first view of Jean was at home, where a family of eight people occupied two rooms, and here is her comment: "She was standing in a wretched dirty basement among a lot of unkempt little brothers and sisters, attending to her business of caring for them. She looked strong and rugged and happy." Jean's parents were illiterate. The father proudly told the principal of the school that he himself had never been in jail. He worked as a teamster for the support of his family of eight children, of whom three were younger and four older than Jean. The one next younger than Jean, John, was also examined in the laboratory. His first examination showed an intelligence quotient similar to Jean's—79. After a year in the observation class his intelligence quotient went up to 82, and after a second year to 87. It was difficult to secure regular school attendance for Jean. Her mother was ill frequently, and Jean and the younger children had the mumps. Even when they were well, it was hard to persuade the mother of the importance of sending Jean regularly when she found her so very useful at home. The twins of 3 years, Idey and Ivey by name, were Jean's special charge. However, a sufficiently regular attendance was finally secured to make sure of school progress. Jean fell upon her work with the same cheerful faithfulness which attended her home duties. She could not write and knew nothing of numbers, but had a fair start at reading when she entered the observation class. Her deficiencies were rapidly made good. Whatever was presented to her she received and absorbed, and came back for more. The teacher allowed her to choose her own work and use her own methods. All she needed was suggestions and help in hard places. Before long she was writing sentences, spelling word families, and reading intelligently in the fourth reader. The number work was most difficult for her, but by the end of the year she had mastered enough of that to be told that she could enter the fifth grade the following year provided she would attend summer school. Her answer was: "Oh, I can't do that! The twins are just at the age when they run away. Mamma can't take care of them. I must stay at home and look after them." And she did, in spite of a very real desire to go to school and make her grade.

A second mental test made at end of the school year gave her a mental age on the Stanford revision of 9 years and 4 months, and an intelligence quotient of 86, six points above her previous test. Her arithmetic had reached a third-grade standard and she had a

good record in association by opposites, and a fifth-grade record in Trabue sentence completion. She failed in construction puzzles A and B in which she had succeeded before, but had a 12-year score in the substitution test.

Jean was placed in a regular fourth grade after a year in the observation class. Unfortunately her first year in the fourth grade was the year of the "flu," when the schools were closed for months at a time. Jean failed to get the drill in arithmetic which she still lacked and was therefore not promoted to the fifth grade. During her second year in the fourth grade she did very good work.

Jean was not tested in 1919, but, in 1920, her second year in the fourth grade, on her third test her intelligence quotient was 83. She had a sixth-grade score in oral reading and poor fourth-grade scores in arithmetic. She was examined for a fourth time in March, 1921, at the age of 13 years and 7 months, while she was in the fifth grade. Her mental age was $11\frac{1}{2}$ years on the Stanford revision of the Binet scale, and her intelligence quotient 85. Since the same form of test had been used so often, the national intelligence scale was given as a check. On this standard she had a score of 109 and a mental age of 12 years and 8 months. In both of these tests Jean's ability in language was conspicuous. In her academic tests of spelling, composition, silent reading, and writing she had records somewhat above a fifth-grade average. In arithmetic the test was not complete. In the part she took, the record was that of a superior fourth-grade child. The comment of the examiner is as follows:

The quality of her work is especially remarkable. Her method of work and her power of attention are excellent. The fact that she has been put mentally on her feet and made a success instead of a failure showed the work of the observation class to have been worth while.

If it had not been for a broken year and the twins, Jean would have been not at all retarded instead of two years. Her last teacher reported that her fifth-grade work was excellent and that she had been promoted to the upper division of the sixth grade for the fall of 1921.

In the summer of 1921, Miss Ferris visited Jean's home. She found the family, consisting now of the mother and five children, living in two very dirty rooms, first-floor rear, of an old tenement. The father had deserted the family for another woman. "It's just ignorance," said the wife bitterly. The man still contributed to the support of the family, and the two older brothers worked and brought home their money. When Miss Ferris told the mother how proud of Jean her teachers were, she said with emotion, "Oh, I am glad to know that! That's all there is for Jean—just the interest such folks as teachers can take in her." She seemed not to know

that Jean's essay on the "Community Chest," when read anonymously with a number of others, some of them from eighth-grade children, had been chosen unanimously by the teachers as the best in the school. Jean had never told her—perhaps because she knew instinctively that her illiterate mother would fail to understand the importance of it.

Jean is the type of child for whom the sympathetic, understanding help of teachers can do most. She is a valiant little soul, and she can and will do good work if she is given a chance. She needs help about matters outside the usual province of the school. Her clothes are wretched, and there is no hope of betterment through the mother, who has no sewing machine and seems to know nothing of either sewing or laundry work. Jean herself has the kind of competence which will enable her to take hold of these matters for herself if she is taught and stimulated.

Our expectation for Jean is that she will finish the elementary school, and that, if permitted, she can easily add to it either trade training or part, at least, of the high school. Her intelligence is more limited than that of most children who finish high school, but she is constantly surprising us with what her reliability and power of application can accomplish. She will make a fine, competent, good-tempered, sensible, and reasonably well-educated woman. The observation class, we believe, served to secure to her at least three more grades of school training than she could have secured without it, and saved her from the ruinous experience of further failures.

CASE I.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Men- tal age (yrs. and mos.).	In- telli- gence quo- tient.	Construction puzzle. ¹				Painter cube.		Picture com- pletion.		Substitution.								Opposites.		
					A.		B.		Score.	Age norm.	Score.	Age norm.	P 1.		P 2.		P 3.		P 4.		Age norm.	Per cent.	Grade.
					Time.	Age norm.	Time.	Age norm.					Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.				Acc.
1st.....	2-1-1917	9-5	7-7	80	210"	6	89"	13+	6	10	8	8	88	339"	94	194"	100	146"	84	172"	8-	60	Poor.
2d.....	6-13-1918	10-9	9-4	86	5' 4"	20	5' 4"	20					100	245"	100	144"	100	118"	98	110"	12	90	Good.
3d.....	1-23-1920	12-5	10-4	83																			
4th.....	3-23-1921	13-7	11-6	85																			
Number of test.		Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.					
1st.....		Trabue. Grade V.....																I.					
2d.....																							
3d.....		National intelligence scale score 109; mental age 12-8; intelligence quotient 93;										VI.....		III.....		IV -		IV.					
4th.....		comp. V +; writing V +.										V (silent).....		IV + (incomplete).....		V		V.					

¹ Time expressed in minutes or seconds.² Failed.

CASE 2.

William was 7 years and 5 months when he was first brought to our attention and had failed completely in second-grade work, in spite of having done fairly well in the first grade. His mental age on the Stanford revision was 6 years and 5 months, and his intelligence quotient 86. In one supplementary test—the Porteous maze test—he made a 9-year record. The Pintner cube test was a 5-year record. In association by opposites he failed to grasp the meaning of the test. He had a $7\frac{1}{2}$ -year record on the Seguin form board, but failed in construction puzzles A and B. He could read a little and write a little, but had no interest in doing it.

It was impossible to look at William without knowing that his physical condition was part of the problem. His skin was colorless and every movement weak and listless, his voice thin and lifeless. He looked hungry. His whole figure, from his noble little white face to his weary feet, suggested anemia. The school physician reported tonsils and adenoids in such a state that they were a serious menace to health, and in some measure accounted for his continual hunger. The doctor had been trying for three years to persuade the parents to permit an operation, but they refused.

William's home was the third floor rear in a building mainly occupied by a saloon. His father worked as a railroad hand and supported the family. He was a cruel man who frequently beat the children when he was drunk. William's little brother in the kindergarten was heard to say that he would not care if his father should die. The mother stayed at home and supposedly cared for the children. In spite of the fact that she was a vigorous-looking woman, her small domain of two rooms was wretchedly dirty and very poorly furnished. She produced the impression of being extremely ignorant and possibly defective. William was the oldest of four children. The three younger ones were as pale and pitiful as he. The entire family of six slept in one room with the windows closed.

At the beginning of the year William seemed unable to do anything except under the immediate stimulus of the teacher. When she was occupied with the others, he just sat and watched the other children. He seemed constantly hungry and was always dirty, but in spite of it he had a native refinement of manner which was very winsome. One day, when the children were given crackers as a treat, William was discovered with tears in his eyes, holding his cracker under his desk. "You mean to take it to little brother?" asked the teacher. "Yes," said William. "But there is another for you to take to little brother," the teacher assured him, and only then would the hungry little fellow eat.

It took almost four months to get the child roused to do anything like work. Every method and device was tried, but nothing could interest him more than a few moments. By the end of four months a little impression had been made on the home with regard to the necessity for better food and sleeping with open windows. He began to overcome his listlessness. The number work caught his interest first. He also liked to write verses on the board from memory, and finally fell to reading stories with real joy. Phonics he had already mastered during his successful year in the first grade. Building with the anchor blocks and learning to name and compare geometrical figures helped his sense of form. He learned to fold circles into sixths and cut out snowflakes. Addition and carrying tens he learned by constructing the numbers with cubes. Between January and April he made up all the work of the second grade and that of the first part of the third grade, so that he could enter a regular third grade. His progress was surprising in that it hung fire so long. Everything that had been done for him seemed to take cumulative effect long after his teacher had despaired of helping him.

When retested the following June William had a mental age of 8 years and 3 months, and an intelligence quotient of 94, an increase of eight points. His supplementary tests were also much better. This time he was able to understand the idea of association by opposites, and made a record of 37.5 on an easy list. This was not normal for his age, but a decided improvement over being unable to grasp the idea. Construction puzzles A and B he solved more promptly than the average child of 12 years, and his Pintner cube record was as good as the average 16-year-old, showing fine power of attention. In substitution his record was very little below normal for his age. The whole increase in mental level was very impressive. His work in the third grade from April to June was excellent. He was promoted to a regular fourth grade, but was sent the following year to an open-air class. His stay in the open-air class was brief—only about three months. William's mother was indignant because "they put him into a tub of water every day," and because they said he was not well fed at home. She had him returned to his own school. The change of schools and the broken year, due to the epidemic, meant that William did not pass the fourth grade.

During his second year in the fourth grade he was examined twice, once by an individual examination and once by a group test. In the individual test, given in January, his mental age was 8 years and 9 months, and his intelligence quotient 84, 10 points below the previous one. The only supplementary tests given were the educational ones. His reading was about a fourth-grade record, spelling third grade, and arithmetic rather below fourth grade. He could not

do long division. On the National intelligence scale, in March, he had a score of 35, which gave a mental age of 8 years and 5 months, and an intelligence quotient of 80. This time he passed the fourth grade, though his teacher was doubtful about promoting him. During his year in the fifth grade he did much better and his work was satisfactory. Meanwhile, perhaps due to prohibition, the family fortunes were improved. They moved to much better quarters. For the first time the children had adequate lunches, and the evidences of more money spent on the family were unmistakable. William responded quickly to the improved conditions. The comment of his fifth-grade teacher is that while William was not a very strong pupil, he was so thorough in his work and so determined to get everything himself that she felt justified in promoting him to the upper division of the sixth grade for the fall of 1921.

Our last view of him was in July, 1921, selling papers on the street. He was happy and alert. All his old listless manner was gone. William has real character. A genuine possibility of happiness lies in his patient endurance of the ills of his lot, his faithful industry, and his appreciation of good and beautiful things. Next to Jean we feel that William appropriated most from the observation class. He is at present but one year behind for his age. The observation class undoubtedly prevented further retardation (how much we can not say), and gave him a spirit of independent endeavor which is still noticeable. His abilities are obviously limited, but his real spirit of work will probably carry him through the elementary school. There is every reason to expect him to be a useful citizen in some phase of industry.

CASE 2.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Men- tal age (yrs. and mos.).	In- telli- gence quo- tient.	Construction puzzle.				Picture com- pletion.		Substitution.								Opposites.		
					A.		B.		Pin- tner cube.	Age norm.	P 1.	P 2.		P 3.		P 4.		Age norm.			
					Time.	Age norm.	Time.	Age norm.				Acc.	Time.	Acc.	Time.	Acc.	Time.			Acc.	Time.	Acc.	Per cent.	Grade.
1st.....	1-16-1917	7-5	6-5	86	5'+	10	5'	10	3	5	88	316"	92	182"	86	109"	78	150"	8	37.5	Failure. Poor.
2d.....	6-12-1918	8-10	8-3	94	198"	16+	70"	13+	8	16											
3d.....	1-22-1920	10-5	8-9	84																	
Miscellaneous.																					
Number of test.		Reading. Arithmetic. Spelling. School grade.																			
1st.....		Porteus { 6-9+ } 9 yrs.; Seguin { 21" } 10-11-7 yrs.																			II.
2d.....		National intelligence scale score 33; mental age 8-5; intelligence quotient 80.																			IV.
3d.....																					III.

CASE 3.

Henry we first saw at the age of 7 years (March, 1917). He had spent a year in kindergarten and a year in the first grade, but had failed in everything except writing. His mental test gave a result of 5 years and 10 months on the Stanford revision, and an intelligence quotient of 84. His supplementary tests were irregular. He failed completely in substitution and could not grasp the meaning of opposites. In picture completion he made a poor 8-year record, in construction puzzle B an 8-year record, and in the Pintner cube test a 6-year record.

Henry was a frail-looking child with big staring eyes. His general physical condition was fair but he suffered from fearfully enlarged tonsils which the parents refused to have removed. His teeth were in bad condition. The doctor reported red spots in the roof of his mouth, enlarged glands, and notched teeth which suggested the possibility of specific disease. He had not learned to talk until he was 5 years old and he still talked baby talk.

Henry's home was in a first-floor rear tenement, a miserable place, where there was little sunlight and the air was foul from old buildings, garbage cans, and the dirt of the alley; Henry was the youngest of four children and was much petted and indulged.

The father produced the impression of a neat, industrious man. He was an employee of a white-lead works where he had been for 20 years. The mother was a flighty little woman, with little or no education—an inveterate movie fan. Her habit was to take Henry to a movie every night and then let him sleep frequently in the morning rather than wake him up and send him to school. It took the combined efforts of the father, the teacher, and the truant officer to convince Henry's mother that the State, if necessary, would step in to break up this régime and secure regular school attendance. The idea that the State held her responsible for seeing to it that the child got an education was a new idea. Henry's teacher was inclined to attribute his peculiar habit of staring into space to his prolonged movie experience. There were three older children living, one married, one living at home and working, and one in school. Three children were dead. The sister who worked had completed the eighth grade, as had also the married brother. The brother who was still in school was in the sixth grade at the age of 12 years (1919), and had an intelligence quotient of 107 on an Otis group test.

When Henry entered the class his academic accomplishment consisted in copying neatly from script without knowing a word or letter that he copied and in performing additions under 10. He proved to be a willing, lovable little pupil. Whenever he was told to do anything, he responded with a hearty "aw wight." But for

all his application the word impressions were immediately lost, and letters would not be connected with either sounds or names. He had a way of losing the very thing he was drilling on, but he also had a way of recovering it. For instance, when drilling on the family "me, he, be," he would suddenly lose the sound *e* and the name of the letter. He would then turn patiently to the word t-h-e, which by some inexplicable hook or crook he had managed to memorize. "T-h-e" he would say, and then turn back to his family with the sound *e* and go on until he lost it again. This sometimes happened as many as 15 times in one recitation, only to be repeated in the next. This method indicated to the teacher that rote spelling aloud, until the sequence of letters or sounds was fixed, was the way to begin. The next step was to fit the auditory series to the visual, pointing carefully to each letter. Henry had a good verbal memory, and the same method was of course tried of fitting the known word to the word form, but it proved to be impossible for him to retain and recognize visually the more complex word forms. It was six months before the rote spelling method finally succeeded in establishing the connection between letter forms and sounds. From that point on mere duty gave place to pleasure in lessons. After eight months the teacher's comment is: "Most satisfactory awakening and progress." At the end of the school year Henry had mastered first-grade reading. The number work had been easy from the start. Although ready for regular second-grade work, Henry was retained in the observation class the following year in the hope that he could make more than normal progress.

When examined in June, 1918, after a year in the observation class, Henry's mental age on the Stanford test was 7 years and 6 months, and his intelligence quotient had risen from 84 to 91. His supplementary tests were also much better. He not only understood the meaning of opposites, but made a record of 62.5 per cent accuracy on an easy list—a fair record for his age. His substitution test was almost normal for his age. The memory page was done as well as the average 10-year child. He failed again in construction puzzle A but succeeded excellently in construction puzzle B. The Pintner cube test gave a 7-year record. He still had the habit of gazing into space, and seemed to find it hard to concentrate attention, but his progress was remarkable.

When Henry came back after the summer vacation for his second year in the observation class, Miss Ferris was dismayed to find that he had forgotten everything that he had learned. It was necessary to start all over again and to go through once more the process of stimulating him to effort. It was January before he got another start. In December of that year his father died. He had finally succumbed to lead poisoning. The father left enough insurance to

better the family fortunes, and the mother received a mother's pension. The family moved to a neat, airy apartment where there were flowers in the windows. Meanwhile, Henry's mother had joined the school mother's club and attended the meetings regularly. Her whole attitude toward life, toward the school, and toward Henry's education was transformed. She was better dressed and more serious minded. The child was no longer taken out at night, and his school progress became a matter of real concern.

Henry was assigned to a regular third grade after his two years in the observation class. Our hope of more rapid progress in the second year was not fulfilled because of the broken year of the influenza epidemic. In January, 1920, while in the third grade, he was given his third mental examination. His mental age proved to be 8 years and 6 months, and his intelligence quotient 86. His reading and arithmetic were of third-grade rank, and his spelling second-grade.

Henry passed from the third to the fourth grade. His fourth mental test was given in March, 1921, while in the fourth grade, at the age of 11 years. On the Stanford scale his mental age was 9 years and 5 months, and his intelligence quotient 85. No supplementary tests were given except the educational ones. His oral reading was of fourth-grade level, with an excellent knowledge of what he had read. His fundamentals of arithmetic were fourth-grade performances. A group test, given with the national intelligence scale during the same month, rated Henry higher—a mental age of 10 years and 7 months, and an intelligence quotient of 95. His teacher reported that his work was faithful, though not brilliant. He was promoted to the fifth grade.

In the summer of 1921 Henry wrote a letter to Miss Ferris in which he told of the approaching marriage of his older sister. The family point of view about it was very revealing of the economic grind in which they had existed. Henry wrote that his brother had said to him that there would be one less to work when his sister was married, and he said yes, but there would also be one less to feed.

A visit made somewhat later found the home still well maintained. The mother went out to work by the day several days a week and the boys sold papers to help. On the days when the mother worked the boys stayed with the married sister, who lived near by.

Henry is now safely started on a school career which, while it will probably not be brilliant, will doubtless take him through the elementary school and give him the basis for trade training if he wishes it. His habit of faithful work seems well established. How long his deadlock in mental progress might have lasted if it were not for the observation class, it is impossible to say; but it is very improbable that he would have gotten a real start if he had been left in the regular class.

CASE 3.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Mental age (yrs. and mos.).	Intelligence quotient.	Construction puzzle.				Pintr cube.				Picture completion.				Substitution.								Opposites.		
					A.		B.		Age		Age		Score.		Age		P 1.		P 2.		P 3.		P 4.				Age norm.
					Time.	norm.	Time.	norm.	Score.	norm.	Score.	norm.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.				Per cent.	Grade.
1st.....	3-20-1917	7-0	5-10	84	5'	10	258"	8	4	6	7	80	800"										0	Failure.			
2d.....	6-14-1918	8-3	7-6	91	5'	10	182"	10	5	7		100	390"	96	216"	100	171"	100	127"	8		62.5	Fair.				
3d.....	1-23-1920	9-10	8-6	86																							
4th.....	3-22-1921	11-0	9-5	85																							
Number of test.	Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.										
	1st.....																			I.	Observation.						
	2d.....																			III.							
	3d.....																			IV.							
4th.....	National intelligence scale score 156; mental age 10-7; intelligence quotient 95.																										

1 Failed.

CASE 4.

Vivian we first knew at the age of 7 years and 7 months (March 1917). She had spent two years in the first grade, the first of which had not amounted to much because of very irregular attendance, and was a failure in March of the second year. Her test gave her on the Stanford revision a mental age of 6 years and 10 months and an intelligence quotient of 90. Her supplementary tests were no better. She failed completely in construction puzzle A and in association by opposites. In picture completion she was a bad failure and in the Pintner cube test she made a 6-year record. Substitution she could perform, but abnormally slowly for her age and with errors on the memory page. The Ellis object memory test was below an 8-year level.

Vivian was a beautiful, attractive little golden-haired child, with a clear skin and blue eyes. She was of normal size and had no outstanding physical defect. There were some suggestions of under-feeding and her teeth needed attention. She gave the impression of being younger than she was. Vivian's face was serious in repose, but she met your eyes with a shy, sweet smile. Her shyness, timidity, and unwillingness to trouble the teacher for special help when she did not understand were, perhaps, responsible for her failure.

Vivian had a good home. The father, a night engineer at the power house, supported the family of the mother and three children—an older brother in the sixth grade, Vivian, and a little brother of 3 years. One other child had died of convulsions in infancy. The mother was a young, steady, conscientious woman. Her education had ceased with the fourth grade and the father's with the fifth. There was not a single child's book in the house, but the mother responded at once to the suggestion that she buy picture books and try to entice the child to read. The brother, following the teacher's directions, helped her at home, though he was probably not a very skillful teacher. An Otis group test given him when he was 15 years old and in the eighth grade rated him at 11 years and 4 months mentally, with an intelligence quotient of 76. During the year there were indications of an unusually hard struggle with poverty. When Vivian's cloak was stolen it was replaced with a shabby and worn old one. The same little striped-cotton dress was worn month after month, always neatly washed and ironed.

When Vivian entered the class she knew a few number combinations and a very few words, though not enough to read the simplest sentence.

Vivian, like Giovanni, got her start in reading with the word cards. She was willing, but at the start merely dutiful, not interested.

Her industry and fine help at home resulted in surprising progress. Very soon the cards and the sentence building were laid aside; the letters had been learned by means of the rote song, and the phonetic drill had successfully given her command of the sounds. After six months the teacher's notebook says: "Reading beautifully in the third reader. Doing all her work with interest and vim." Vivian learned numbers easily, and was fond of writing the number families on the blackboard. Writing poems from memory was also a favorite pastime. Toward the end of the year her attitude of dutiful industry gave place to one of profound interest, and she worked as Giovanni did, for the work's sake.

Vivian's mental test at the end of the year gave her a mental age of 8 years and 2 months, and an intelligence quotient of 93, three points above her previous test. Not many supplementary tests could be given, but in association by opposites, in which she had failed completely before, she had a record of 62.5 per cent on an easy list, a fairly good record for her age. In oral reading her level was that of second grade. Vivian reported that she loved school.

Vivian was placed in a regular third-grade class in April, 1918, and was promoted with the class to fourth grade. Her first year in the fourth grade saw several tragedies. She not only lost all the time that the school was closed because of the epidemic but her family had the "flu" during the time that the schools were in session, and she lost that time, too. The teacher thought her incapable of fourth-grade work and demoted her to the third, a very discouraging experience, and, in our opinion, scarcely justified. The following year she was again sent on to the fourth grade. In January of that year (1920) Vivian was given a third mental examination. This time her mental age on the Stanford scale was only 8 years and 6 months, and her intelligence quotient 81. In a year and a half, therefore, since leaving the observation class, Vivian had advanced only four months mentally. In association by opposites she now made a normal record for her years. She proved entirely unable to do the Healy picture completion test No. 2. Her foolish mistakes so penalized the record that she received no credit, while the normal 8-year-old child receives 27 points credit.

In an Otis group test, given in March, Vivian had a score of only 25, a mental age of 7 years and 7 months, and an intelligence quotient of 72.

Her academic tests were excellent so far as mechanics are concerned. Her oral reading was somewhat above fourth-grade average; in arithmetic she knew all of the methods of addition, subtraction, multiplication, and long division, but she was easily confused and seemed unable to correct mistakes. Neither could she apply arithmetical methods to practical problems.

After two years in the fourth grade Vivian was promoted to the fifth. She did a fair year's work in the fifth grade, and was promoted in June, 1921, at the age of 12 years, to the lower division of the sixth grade. She had worked very hard, and her teacher felt that she had mastered all she could of the work of the fifth grade and should be allowed to try the sixth.

Vivian is, in our judgment, a nice child of limited ability and a degree of shyness and lack of self-confidence which is a real handicap. She will probably, with her unfailing industry, finish the elementary school, and would be capable of taking a trade training if she desires, though it is hard to imagine Vivian as taking hold of industrial life with vim or pleasure. The most suitable life for her seems that of housekeeper and kindly neighbor. She will never be a very effective person, but she is lovable and will have a sufficient education to find resources and companionship for herself in books.

CASE 4.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Men- tal age (yrs. and mos.).	Construction puzzle.				Painter cube.		Picture com- pletion.		Substitution.								Opposites.		
				A.		B.		Score.	Age norm.	Score.	Age norm.	P 1.		P 2.		P 3.		P 4.		Per cent.	Grade.	
				Time.	Age norm.	Time.	Age norm.					Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.			Acc.	Time.	Age norm.
1st.....	3-27-1917	7-7	6-10	5'4	10			4	6	3	10	100	495"	100	295"	100	235"	86	272"	8-	0	Failure.
2d.....	6-12-1918	8-9	8-2																		62.5	Average.
3d.....	1-28-1920	10-5	8-6							1	20											
Number of test.		Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.				
1st.....		Ellis object memory score 60; age norm 8—																I. Observation. IV.				
2d.....																						
3d.....		Graded opposite score 30; 10 yrs.; Otis group score 25; mental age 7-7; in- telligent quotient 72.												Methods correct; no efficiency.		III.....						

¹ Failed.² Healy No. II.

CASE 5.

Landon first came in for examination in January, 1917, when he was 9 years old and had a mental age of 7 years and 4 months on the Stanford revision of the Binet scale. His intelligence quotient was 81. In the Pintner cube test he had a 10-year record, in the picture completion test a 12-year record, and in construction puzzle A he had a 10-year record. In substitution his work was accurate, but abnormally slow, slower than the average 8-year-old. The comment of the examiner was: "In my judgment, Landon is not feeble-minded, though a final diagnosis can not yet be made." After two months in the class the teacher wrote of him: "I should call him an average 7-year-old child if I did not know that he is nearly 10." The child was small of stature, young of face, and of imperfect speech. He had a very dependent, trustful manner.

Landon had entered school at 6 years and 9 months, had spent a year in the first grade, a year in which he failed in the second grade, and was again failing in the second grade when he was sent to us.

He was undersized, but had no outstanding defects except one of speech. He talked baby talk.

Landon's father was dead, and the mother supported the family by daywork. Her own education had ceased when at the age of 13 and in the third grade of a Catholic school she had—to use her own words—"just quit." A pleasant-faced aunt cared for the children when the mother was absent at work. The teacher's account of the family is as follows:

It seems to be a very humble but ideal home life, in which each member takes part in the duties and shares in the pleasures. Self-respecting describes the family. I found them doing the washing. Landon and an older boy were turning the wringer. Evidently the boy is trained to habits of industry and thrift. There are three older children in the family and one younger. It was touching to see how promptly Landon found his brothers at recess and at noon.

The only other member of the family examined in the laboratory was an older sister, who, in 1920, applied for an employment certificate, at the age of 16 years when she had completed only the sixth grade. Her mental age on the Stanford revision was 9 years and 5 months, and her intelligent quotient 59. Her record in a group test, given with the national intelligence scale, was even poorer, with a mental age of 8 years and 3 months. The certificate was granted, since she could not with due industry complete the required grade—the seventh. This sister also had a speech defect.

When Landon entered the class after two and a half years of regular attendance at school, neither his reading nor his arithmetic was of first-grade standard. He knew a few words, but so many of the basic ones of the first reader were still lacking that it was impossible

for him to read anything well enough to get the meaning. In number work he knew some simple addition, but nothing more.

Landon's attitude toward his school work was from the start one of ambition and a great desire to succeed, but his motive seemed to be, in the words of his teacher, "just to keep his self-respect and please his home folk." The idea of school work as a thing of interest or joy had never come to him. He was steeled for unsweetened toil.

When he first entered the class, Landon was determined to try third-grade work. Accordingly he was given a third reader and set the task of trying to find the answers to some questions about a picture by reading the book. The task was utterly impossible, because so many words which he should have learned in the first grade were still a complete blank to him. The teacher then persuaded him to try a second-grade reader, which he had never seen before. By dint of having the story read to him first by the teacher he was able by hard study to read it for himself. Appeals for help from the teacher were always met with some drill on phonics which gave him a gradual mastery of more and more words. He was a proud little fellow, indeed, when after three months in the class he was able to read a story from the second reader to the class.

One of Landon's greatest difficulties was in his own inability to construct sentences because of his very limited field of experience. Birds, beasts, flowers, and insects, even colors, the commonplaces of the school readers, were matters that were by no means organized parts of Landon's background of knowledge. The type of lesson which helped him most was that described on page 14, in which, after discussion of the differences between birds and beasts, the children were told that they might tell in writing what kind of creature each one in a list was. The words in the list—for instance, horse, owl, cow, dog, robin, mouse, sparrow—were pronounced and spelled carefully and then written on the blackboard one under another. The two words "beast" and "bird" were also written in another list, and the word "is" between. The task was to construct a sentence thus: "The horse is a beast." "The owl is a bird." Later insects, reptiles, and fishes were added in the same manner. The work was illustrated by objects, if possible; if not, by colored plates. Color words, shape words, and size words were treated in the same way. The use of various national flags in teaching color proved to be very popular with Landon. The colored plates of the Geographic Magazine were used for this purpose. Simple as these sentences seem, when all the preliminary work is thus placed before the child, they nevertheless required constant vigilance on the part of Landon to go through the process of constructing them, and still see to it that his pencil always told the truth. He was gaining not only a back-

ground of information but ability to think and a first conception of the real use of written and printed language.

Numbers were also difficult for Landon. Beyond recording addition facts, he was lost. When asked the cost of two pencils at 5 cents each, he would invariably say 7 cents. It was necessary to go back to the concrete presentation of numbers in terms of objects, money, or drawings which he made himself. The beginnings of the multiplication table had to be acquired the same way by repeated concrete presentation, thus: $\begin{array}{cccc} 4 & 8 & 12 & 16 \\ 1111 & 1111 & 1111 & 1111 \end{array}$, etc. Landon was given no rote work in arithmetic until the teacher was sure that the process was understood in concrete terms. Drills for speed were then made into a merry game. In the second half of the year Landon learned to carry by tens in the same concrete way by the use of cubes, and the actual construction of numbers in columns of 10 cubes each and the units separately. No drill in addition involving carrying was given until it was certain that he had grasped the idea by repeated construction of the addition of two place numbers.

At the end of one year in the observation class Landon had completed the work of three grades. A reexamination with the Stanford revision showed that his intelligence quotient had risen from 81 to 88. His supplementary tests—construction puzzle A, substitution and opposites, were 9-year records and his oral reading was of second-grade standard. Miss Ferris's analysis of the situation was that in addition to being naturally slow and finding it difficult to retain visual impressions, Landon was shy and sensitive and had worried in secret over his failures until the expectation of failure dominated his soul. Here is her summing up of the case: "Landon proves that a dear, conscientious little boy, abnormally slow in grasping ideas as well as in retaining visual impressions, by trying day after day to follow the work of the grade only to fail miserably and to grieve over it in secret, is simply ruining himself. Given freedom to choose a large part of his work, to study aloud, to come to the teacher for help when he needed it, to read the whole lesson aloud to his teacher with no one listening, to do to-morrow, without a sense of loss, the thing which had not quite satisfied him to-day, he became free from failure and the anxious, worried look gradually gave place to an expression of confidence and happiness. Allowing him to tutor younger children added to his sense of power. Singing alone before the mother's club helped to dispel the shyness."

Landon's career since his year in the observation class has been less successful than we had hoped. He was placed in the fourth grade, but failed to pass, possibly because of the enormous loss of time during the "flu" epidemic. Although he had always been

a "saint" in the observation class, he was reported to be impudent and insubordinate with his next teacher. The following year he was again in the fourth grade. A national intelligence group examination, given in March, 1920, gave him a mental age of only 7 years and 5 months, and an intelligence quotient of 61. Another Stanford test of the same month gave him a mental age of 8 years and 6 months, 9 months less than at his test almost two years earlier. His intelligence quotient had fallen from 88 to 69. The teacher of that year reported that Landon was good and conscientious and tried very hard, but that his academic work was not good, considering the fact that he was spending a second year in the grade.

He passed to the lower division of the fifth grade, after his second year in the fourth. At the end of his year in the fifth grade he was conditioned in arithmetic and was sent to summer school in the summer of 1921, with the understanding that if he passed he might enter the sixth grade in the fall. He remained three weeks in summer school, where his work in arithmetic was surprisingly good and his language work poor—a reversal of his previous record. His work was ended by an attack of grippe and he will be compelled to repeat the fifth grade.

When Landon's family was visited in July, 1921, conditions were somewhat improved. Two of the older children were working and the mother stayed at home. She was not troubled by Landon's school failure. He had already gone further in his studies than she had before she "just quit." No realization of the fact that, but for the observation class, Landon would probably never have learned to read, had come to her. Indeed she was inclined to resent the class as unnecessary for her boy.

Our opinion of Landon's prospects in the world is not so favorable now as it was when he was in the observation class. It seemed, then, from the satisfactory way in which he completed three grades in a year, and his fine, ambitious attitude, that he had been merely suffering from the cumulative effect of frequent and unnecessary failures. Restore his self-confidence and give him a start in fundamentals, we thought, and he will be able to keep the pace of the elementary school. It is now evident that Landon's capacities are more limited than we thought. His sensitiveness and suggestibility doubtless play a part. At the age of 9 he was able to make up the failures of ages 6, 7, and 8 in a year under the conditions of the observation class, but he is not able to go on at the average pace under the conditions of the regular grade. He will probably not be able to complete the work of the elementary school. His rate of development seems to be slowing down and his ultimate level will probably be on the border line of defect. The drop in intelli-

gence quotient from 88 to 69 is abnormally great. He may (if he does as well for himself as his conscientious and industrious but limited little mother has done for herself) make an excellent semi-skilled worker. Thanks to the observation class he will have a usable knowledge of reading, writing, and simple arithmetic. He is the type of child who probably would have succeeded far better if he could have been retained longer in the observation class.

CASE 5.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Mental age (yrs. and mos.).	Intelligence quotient.	Construction puzzle.				Picture completion.				Substitution.								Opposites.		
					A.		B.		Pintr cube.		P 1.		P 2.		P 3.		P 4.		Age norm.	Per cent.		Grade.	
					Time.	Age norm.	Time.	Age norm.	Score.	Age norm.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.						
1st.....	1-9-1917	9-0	7-4	81	65"	10	5'	10	6	10	13	12+	96	616"	100	264"	100	131"	100	154	8-	Fair.	
2d.....	6-12-1918	10-6	9-3	88	90"	9							100	280"	100	185"	100	153"	100	155	9		Fair.
3d.....	3-2-1920	12-3	8-6	69																			
Number of test.		Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.					
1st.....																						II.	
2d.....																						Observation.	
3d.....		National intelligence scale score 23; mental age 7-5; intelligence quotient 61.																				IV.	

1 Failed.

CASE 6.

We first saw Curtis in the spring of 1917 after he had spent a year in kindergarten and almost a year in the first grade. He was 6 years and 7 months old, had a mental age on the Stanford revision of the Binet scale of 5 years and 6 months, and an intelligence quotient of 84. His performance tests, however, were considerably above this level. He had records of 7 and 8 years in construction puzzle and picture completion tests, and of 10 years in the Pintner cube test. The substitution test he could do, though very slowly. In association by opposites he failed to grasp the idea.

Physically Curtis was suffering from undernourishment, though no other type of physical defect was reported by the doctor. The child was beautiful in body and face, but pitifully weak.

Curtis's family, consisting of mother, father, two older brothers, and a baby brother, lived on a ground-floor tenement in a filthy alley. Four children had died. Curtis's father was a weak, good-for-nothing man who did not work for the support of the family except when his wife, in her language, "had him pulled" and sent to the workhouse. He had had a fairly good education in Germany. His trade was that of varnisher, but he never kept a position long, chiefly because he was a heavy drinker. In spite of his obvious failure as a parent, the children were fond of him. Curtis's mother was a futile little woman, quite incapable of grappling with so difficult a family problem. She had never been to school after she was 8 years old, because after her mother's death she was placed out to live with some people who did not send her. Before her marriage she had worked as a domestic servant. She did cleaning by the day to support the children. Some of her hard-earned and sorely needed money was spent for drink by the father. So irresponsible was the mother that on one occasion when Curtis was very ill with the "flu," she spent the entire morning at school, enjoying a visit with his teacher, while Curtis was alone in the house. Suggestions that perhaps Curtis might need her did not serve to disturb her pleasant visit. She was, in Miss Ferris's words, "like a silly little 10-year-old girl." On another day when Miss Ferris visited the sick boy, she found his mother away from home and the brothers caring for him. In spite of the school, the Humane Society and the Associated Charities, the children were constantly cold, hungry, and neglected. The winter before, Curtis had had his feet frozen in his own home. All of the children had sad, shy, appealing faces. They were very fond of their mother, in spite of her neglect of them. When we first knew them they were all very well behaved and were favorites with the teachers at school. Both of Curtis's older brothers have had mental tests. One of them was given an Otis group test when he was 12 years old and in the

sixth grade. His intelligence quotient was 99. The other brother was examined for the placement office after he had left school. He had completed only the seventh grade at 15 years. His intelligence quotient on the Stanford scale was 90.

Curtis was a particularly lovable child, so much so that his teacher would have liked to adopt him. He was manly and independent. Hunger drove him to eat the morning lunch provided at school, but he always insisted on performing some service to pay for it, and was allowed to do it in order that his self-respect and independence might be maintained. The lack of these qualities in his parents seemed to distress him. The first time he was given a bottle of milk to take home, he came back with a note which he gave secretly to his teacher, his fine little face burning with shame. It was a request from the mother that the teacher buy them a bushel of coal.

In his year in the first grade Curtis had learned to copy neatly from script, though he knew no words or letters. He was slow but accurate in dealing with numbers below 10. His attendance had been irregular. Doubtless irregular attendance, a low state of physical vitality, and slowness of mind accounted for his failure. Curtis was willing to study, but word impressions faded from his mind in a very discouraging way. Comparing word cards with words in known verses, building sentences with word cards, and drills in phonics all failed. His number work was well done. Meanwhile Curtis was frequently kept at home to care for the baby, and since he was not yet 8, his parents could not be compelled to send him. It was impossible to secure voluntary cooperation from them. Curtis gave the impression of living in a constant state of anxiety. Toward spring the baby died, and while it was a great grief to Curtis, the child's death released him from part of his anxiety and made his attendance more regular.

Curtis's first sign of real progress with reading came toward the end of the year. A new group of little failures had been introduced in the class to take the places of some of those who had gone on into regular grades. The method tried with some of them was that of learning to spell words aloud by rote, and then while holding the auditory image firmly in mind to fit the sounds to the letters on the blackboard. Curtis, who had learned the letters from the rote song, could join in and even play teacher. However, though he made some progress in this way, Curtis remained sad and listless to the end of the year, and aside from number work he accomplished little.

His second examination, in June, 1918, gave him a mental age of 7 years and 10 months and an intelligence quotient of 99, an increase of 15 points. His supplementary tests were also much better. In substitution his speed was that of a normal 8-year-old, and the

fourth page was perfectly written from memory. In association by opposites he grasped the idea and made an accuracy of 47.5 per cent on an easy list. He failed in construction puzzle A, but solved B in less than normal time. His normal tests make his failure in school still more surprising.

In the summer of 1918 we arranged to have Curtis, his mother, and brothers go to the fresh-air farm. They had a glorious time and came back tanned and smiling. By November, however, Curtis, who was kept in the observation class a second year, was looking very frail and delicate again. His mother had secured a divorce from her husband in September. In February the mother was very ill and was taken to the hospital. Her divorced husband went home to care for the children in her absence, but she worried for fear he would again sell her furniture for drink. When she got out of the hospital she sent the father away. Curtis seemed very much grieved and worried about it.

It was February of the second year before Curtis really began to read. Arithmetic seemed easier for him. He was doing second-grade arithmetic by the end of the year.

The following year (September, 1919) Curtis was placed in a regular second grade. He was given his third examination in January, 1920, when he was 9 years and 6 months old. His mental age was 8 years and 9 months, and his intelligence quotient 92. In the Healy picture completion test No. 2 he had a record of $9\frac{1}{2}$ years. His academic tests showed second-grade attainment in arithmetic and spelling and first grade in reading. His teacher reported that he was an excellent pupil and was doing very good work. His behavior was perfect.

Curtis still seemed undernourished, and his second-grade teacher followed Miss Ferris's custom of bringing him a sandwich every day. Frequently, instead of eating it, Curtis took it home to his mother. Without seeming at all abashed the mother told his teacher, "Oh, yes; Curtis often brings the sandwich home to me, and when he carries packages for ladies and they give him something to eat he always brings it to me." Curtis and his brothers had been very much distressed at having the father sent away, particularly while the mother was entertaining another man. She had hesitated for a time, uncertain whether to remarry her divorced husband or to marry her new suitor, but in spite of the pleadings of the boys for their own father she married the other man. He did not come home drunk and was unwilling to allow her to work, but events showed that so far as the boys were concerned she had made a bad choice.

Curtis was promoted to the third grade, but he did not pass the grade. For the first time in his life he had begun to be unruly and

to make trouble at school—he played truant and he told lies. An older brother, who had gone to work, also gave concern to the school authorities because he refused to attend continuation school. Inquiry revealed the fact that the stepfather was having trouble with the boys, who resented his presence, and at times left home to stay with their own father.

In July of 1921 Miss Ferris visited the tenement-house home of two rooms and here is the story the mother told:

Walter carries packages after school and earns \$2.50 a week, but Edward won't go to school and he won't work. He got lots of jobs but he wouldn't stick, so we just threw him out and made him go back to his father. He idled and stayed away from continuation school till they got him into juvenile court, in the detention home. I couldn't stand that, so I went and brought him home. His father started in coming to see me about two weeks after I was married to this man—a begging me to divorce my man and marry him again. It's just jealousy. He and my man scrap something awful. Now he's married again, but he still comes and his wife comes. I've notified the police and if they come again there'll be trouble.

With all this the woman was not in the least depressed. It all seemed very entertaining to her and there was a marked trace of coquetry in her manner when speaking of her two husbands. Edward, 16 years old, unemployed, has tragedy in his face. Curtis has lost his sweet, trustful expression. The one virtue of the home, affection and respect between children and parents, is gone, and the chance for the boys to make good citizens is immeasurably less. It is difficult to be sure of the interpretation of Curtis's results. According to all the tests, his ability is normal—better than that of most of the members of the class. However, in spite of great sympathy, real affection, and effort on the part of the teacher, Curtis's progress has been much less than the expectation. Our opinion is that Curtis is sufficiently sensitive and fixed in his affections to have been very deeply disturbed by the trouble between his parents at home, and that as a result he has never been able to keep his mind fully concentrated on his school work. With the continued friction between the stepfather and the boys, Curtis may never make the most of his powers. He leaves upon us a sad impression of good ability unused and a fine nature being perverted by false relationships in the home.

CASE 6.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Mental age (yrs. and mos.).	Intelligence quotient.	Construction puzzle.				Picture completion.			Substitution.								Opposites.		
					A.		B.		Picture cube.	Picture completion.		P 1.		P 2.		P 3.		P 4.				
					Time.	Age norm.	Time.	Age norm.		Score.	Age norm.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.		Acc.	Age norm.	Per cent.	Grade.
1st.....	2-14-1917	6-7	5-6	84	155"	7	270"	8	6	10	10	10	94	895"	100	559"	100	750"	46	364"	(3)	0
2d.....	6-13-1918	7-11	7-10	99	300" +	10	134"	13 +	98	285"	98	204"	100	190"	100	143"	8	47.5
3d.....	1-28-1920	9-6	8-9	92	155"	7	75"	13 +	42.5	Fair.
Number of test.		Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.				
												Below first.....		.....		.....		I. Observation.	
1st.....												.....		.....		.....		.....
2d.....												.....		.....		.....		.....
3d.....												.....		.....		.....		.....

¹ Failed.² Picture completion No. II.³ Below record.

CASE 7.

Harvey we first saw at the age of 7 years and 8 months (February, 1917). Harvey had spent 2 years in the first grade, but his attendance had been so irregular that he was out fully half of the time. He was a complete academic failure.

On the Stanford revision of the Binet scale Harvey had a mental age of 6 years and 10 months and an intelligence quotient of 89. He failed in construction puzzle A after being very much bored with it for 5 minutes, but could do it in 25 seconds after being shown how. In construction puzzle B he had an excellent record—as good as a 12-year-old. The substitution test was performed with such excessive slowness that it had to be discontinued—the first page took 13 minutes. It was exceedingly difficult to hold him to the task at all. The picture-completion test was a very poor record—6 points. He seemed indifferent toward it and filled most of the spaces with blanks. Throughout the test his indifference to everything and the great difficulty in concentrating attention were evident.

Harvey was a frail little fellow, with a slender body and pale eyes. The doctor reported a fair physical condition, but considered the child neurotic. His tonsils were very badly enlarged, but the mother refused to have them removed. She had recently lost a younger child and seemed afraid of losing Harvey. The child's own father was dead and his mother had married again. The home was a few neat rooms in a tenement house. His mother was young and made a good impression. Both she and the stepfather, who was a motorman, were very much interested in Harvey's school work and ready to cooperate with the school. There were no other living children. Harvey's stepfather drank at times and was very unreasonable when drunk.

When Harvey entered the class he knew neither word, letter, nor number. Indeed, he had never sensed what letters, words, or numbers are. He could not even do mechanical copying of script, as so many of the others could. It seemed impossible for him to make himself work at even so simple a task as copying number dots. The moment he was left to himself he would begin weaving about in his seat, apparently thinking of nothing. When spoken to he would start, snatch his pencil, smile apologetically, and work fast for about half a minute, and then lapse into idleness. He did not give at all the impression of being unwilling. It was pure inability to concentrate. The child produced the impression of being defective, and he was one of the few who was definitely unattractive. Teachers and pupils for the most part disliked him. He had no reserves and no fineness of feeling. His behavior was often exceedingly infantile. During his second year in the class he had charge of the supply

cupboard, and took pride in keeping it orderly. On one occasion while he was absent another child put some paper away in the wrong place. When Harvey returned and saw his order disturbed, instead of restoring it, as he so easily might, he stood and cried about it like a 5-year-old.

The infantile character of his thinking is illustrated by his procedure when he was told to count the pickets on the fence between posts, write down the number in each division, and then add them up to get the total number of pickets. He counted the pickets in each section of the fence, but instead of writing the numbers one under another and adding them he wrote them side by side—after the analogy of the pickets—and then tried to read off the resulting number.

Harvey seemed to be suffering from fears and repressions. For the first year and a half in the observation class he was painfully good. He seemed to be alarmed whenever the other children did anything wrong, and was always correcting them and wanting to tell tales on them. One day in the class the subject of right doing came up, and Harvey said: "You must never do anything wrong, for if you do you'll die that night." Miss Ferris told him that was not true and tried to supply better motives, but Harvey, in the wonderful relief from fear, let loose his long-repressed "wishes" and became all boy, and a bad boy at that, for several weeks. It would be interesting to know what part that fear had played in his peculiar make-up.

Harvey had a good memory for stories. He could take a Story Hour reader and apparently read the story with great pleasure. A glance over his shoulder showed that he was repeating content, not reading. He could neither name words that were pointed out nor find any given word himself. The word cards constituted his approach to reading. It took a long time and countless repetitions for him to master any word images. Letters and sounds he slowly learned from the rote song and the phonic cards. After two months the teacher's note says: "Harvey, after meeting the word 'make' many times this year, did not know it to-day. He sounded it out carefully 'm-a-k-e—boy.'" In another attempt he said "m-a-k-e, bread," which may have been an association by contiguity from the sentence where he first tried to learn the word: "Who will help me make bread?" Finally the contrast between his paper with almost nothing on it and the well-written lessons of some of the rest of the group seemed to spur him on a bit. He was given the paper of one of the other children to take home and copy. The case seemed almost hopeless till near the end of the year. The continual presence of a stronger will seemed necessary to overcome his inertia.

The device which finally succeeded in giving him a stock of words was that of memorizing a poem. It happened to be the one from Baldwin's second reader, beginning "Stop, stop, pretty water, said Mary one day." The words of the first stanza were studied carefully and printed by the teacher on the blackboard in columns, the shortest ones in the first column, the next longest ones in the second column, etc. There were five columns. The grouping by length was merely to facilitate finding the words. The child, with pointer in hand, then recited the stanza, pointing to each word as he said it. The process was very slow at first and the possibility of making ludicrous mistakes gave it the interest of an amusing game for the little group of four who watched. They became very eager to bring the rate of word-finding up to the correct speed for reciting the stanza. The competition helped Harvey to sharpen his wits. Miss Ferris called it the word-fitting game, and not only Harvey but the other children loved it. The other stanzas of the poems were treated in the same way.

About the 1st of April the teacher's notes say of Harvey: "Working bravely and seeming to retain for good those baffling words such as would, could, and where." At the end of May the entry is: "Reading with interest in the second reader."

When retested in June, Harvey's intelligence quotient had risen from 89 to 92. The substitution test, which had to be given up because of abnormal slowness before, was performed with a normal 8-year record. Opposites, given orally with the easy list, gave an accuracy of 67.5 per cent—a record about normal for his age. Instead of 6 points credit in picture completion, he now had 12 points. He succeeded in solving construction puzzles A and B, the five-figure form board, and the two-figure board. He failed on the casuist board. The improvement in his test records was consistent and significant. He was retained in the observation class a second year in the hope that he could accomplish two years' work—a hope which was not fulfilled, perhaps because of the loss of time during the epidemic. He was placed in a regular third grade in September, 1919.

In January of 1920, while in the third grade, Harvey was given his third mental examination. This time his mental age was 9 years and 4 months and his intelligence quotient 87. No supplementary tests were given except educational ones. His reading was of fourth-grade level and his spelling and arithmetic third grade. His tonsils had not been removed, in spite of the mother's promises, and were still badly infected.

Harvey was in the fourth grade the following year, at the age of 11 years, but failed to pass. He had grown very tall and thin, and still wore his foolish smile.

In August, 1921, after his year in the fourth grade, Harvey was given his fourth mental test. He was 12 years and 2 months old. had a mental age of 10 years and 2 months, and an intelligence quotient of 83—four points less than his previous test and nine points less than the test made while he was in the observation class. He was still characterized by listlessness and indifference throughout the test. His constant foolish smile still caught the attention of even a casual observer. His spelling and arithmetic were below a fourth-grade level. Some of the sequences of association in the 10-year association test suggested strongly the presence of an unwholesome interest in matters of sex and probable bad sex practices. Harvey's school failure, in spite of all efforts, has always been worse than his mental limitations necessitate. Our judgment of him is that his mind is, and has been since we have known him, occupied with secret and illicit thoughts and fears, and has never been given to his school work.

Harvey has sufficient ability to make a modest success in the world. Whether or not he does so will depend upon whether he ever conquers his obsessions and learns to attack his tasks with an undivided interest. As yet the laboratory has not a sufficient number of workers to undertake the treatment of cases as time-consuming as those of this type.

CASE 7.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Mental age (yrs. and mos.).	Intelligence quotient.	Construction puzzle.				Pintner cube.		Picture completion.		Substitution.								Opposites.		
					A.		B.		Score.	Age norm.	Score.	Age norm.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Age norm.	Per cent.	Grade.
					Time.	Age norm.	Time.	Age norm.																P 1.	P 2.	P 3.	P 4.
1st.....	2-8-1917	7-8	6-10	89	5' 4	10	64"	12+	4	6-	6	8-	98	805"	98	836"	Discontinued.					52.5	Fair.
2d.....	6-13-1918	9-0	8-3	92	231"	7	150"	12			12	12	100	258"	96	161"	98	166"	8		67.5	Average.	
3d.....	1-28-1920	10-8	9-4	87																			
4th.....	8-8-1921	12-2	10-2	83																			
Number of test.		Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.					
1st.....		Porteus { 6-9+ } 9 yrs.; Seguin { 21" } 7 yrs.																I.					
2d.....		5 figure board 45" (13); 2 figure board 27" (13); casulist board failure.																Observation.					
3d.....		National intelligence scale, score 35; mental age 8-5; intelligence quotient, 80.										IV.		III.		III.		III.					
4th.....												III.		III.		III.		IV.					

1 Failed.

CASE 8.

Giovanni when we first saw him was almost 8 years old and was failing badly in the first grade. He had apparently made no beginning in grasping school work. He was unable to read, write, or record number facts, and knew neither written nor printed letters nor their sounds. His first test gave him a mental age of 6 years and 4 months and an intelligence quotient of 81. He failed in construction puzzles A and B and in opposites, and had less than a 5-year record in the Pintner cube test. The substitution test he performed with complete accuracy, though somewhat slowly for his years. The examiner said, "May be a high-grade defective."

Giovanni's physical condition showed the presence of tonsils and adenoids, which the mother refused to have removed. He was frequently underfed and never well cared for physically.

For a long time we knew Giovanni's family only through him. There was never anyone at home. Gradually we learned the following history: Giovanni's mother, an Irish woman, before her marriage had been a domestic servant of unusually high type. She was competent about her work, well dressed, and impressed her employers as a person of unusual culture and refinement. She married an Italian of good family, who was evidently the "black sheep." His brutality and neglect gradually demoralized the mother, who had real affection for him, and she began to drink. Eventually the father deserted the family, leaving the mother, her blind insane brother, to whom she was devoted, and Giovanni without support. The mother went out to work by the day, and little Giovanni in the crucial years from 2 to 6 spent much of his time locked in the rooms with a blind and supposedly harmless lunatic. The mother was a good worker when she was sober, but was frequently overcome by drink. At one time Giovanni was taken away and placed in a children's home. The fear of a repetition of this experience haunted both Giovanni and his mother.

Never was child more loyal and devoted to his family than little neglected Giovanni. Some of the fine qualities apparent in both of his parents, in spite of their terrible failures, were his. The one really beautiful thing in his life was the love existing between him and his mother. Evidently the mother had even tried to idealize the father for him, because this is the tale Giovanni told about him with every air of conviction:

My father has \$30,000 he is saving for me. Oh, no; he doesn't send us any money now. He knows I'll need it more when I am 21. He has gone to fight for our country.

Meanwhile, we were told, the mother had refused out of pride to receive any help from her husband's family.

On one of the coldest days Giovanni showed such nervous irritability and looked so exhausted that his teacher asked him suddenly, "What did you eat at noon, Giovanni?" His wan little face broke into a game smile as he answered, "Oh, we don't have dinner these days, Miss Ferris; my mother takes my blind uncle out to play the violin somewhere, and they don't come back till 8 o'clock at night." "But doesn't she leave a lunch on the table for you?" asked the teacher. "Why, no," protested Giovanni loyally, "she can't, Miss Ferris. There's no money!" On this occasion he was given some money and told to get something to eat before going home after school. The next day he came with a tale of the grand supper and breakfast he had, and said that his mother had left "rice and meat and everything" for his lunch that day. But the teacher was not deceived. The fear of the "home" was upon them all, and while it may have been possible to give him food for a day or so it certainly was not the established régime. Either this fear or some other great anxiety seemed to be always upon the child. He would suddenly burst into tears with no apparent cause and would refuse to confide his trouble.

Later Giovanni's new shoes, given him by the school attendance department, suddenly disappeared and he had half a dozen different stories to account for wearing a pair of old gymnasium shoes, sizes too large for him. The mother, meanwhile, applied to the Associated Charities for more shoes and when their representative called at the school to investigate, Giovanni's irreconcilable stories would have been laughable but for the pity of it all. He couldn't wear the new shoes, he said, because they were full of tacks. He was told to bring them to school and the janitor would make them smooth. "But a kid came upstairs and stole them," he protested immediately, and, when he saw that this story was doubted, he told one story after another until the truth was evident. His mother had sold the shoes for drink. Up to this time it had been impossible for any of us to find the mother. Even when we had every reason to believe she was at home, she eluded us. We were thinking strongly that the poor, cold, hungry, dirty little fellow should be rescued, but the visitor from the Associated Charities succeeded finally in finding the mother, and because of her native refinement and intelligence, and of Giovanni's intense devotion to her, it was decided to leave him with her for a time at least and give him help from outside. Mrs. W——, who had known the mother in her better days, sent word to the teacher to give him a good lunch every day at the school and send her the bill. He received it gratefully for several days, but the mother became alarmed again and forbade it.

Our home visitor made every effort to send Giovanni to a camp in the summer. The mother of one of the other observation class children, who was going, was willing and anxious to take Giovanni with her children and be responsible for him. Giovanni first said he would go, and then refused; and finally, at the last moment, when he was found on the street, locked out of his home and with no knowledge of where his mother was, he broke down and cried and told the visitor he did not dare go for fear he would not be able to find his mother when he got back.

In spite of Giovanni's apparently limited ability and the terrible distractions and limitations of his home life, he took hold of the school work with surprising avidity. After two months in the class, the teacher notes: "His attitude toward the work is that of an intensely interested college student. He seems hungry for everything and has made very rapid progress. He now reads fairly well and does his lessons with what looks very much like real work for the work's sake." The methods which seemed to help Giovanni most were studying aloud, so that the triple impressions of eye, ear, and motor speech became coordinated, and the privilege of coming to ask for help just when he needed it. His start in reading he obtained by comparing word cards with a little verse which he had memorized and which was printed on the blackboard. This compelled him to observe both resemblances and differences, while keeping firmly in mind the content of the verse. The mastery of the phonic elements of words and the muscular coordination of writing came much later. His first trouble seemed to be in a recognition of the forms themselves. Building with colored anchor blocks after a pattern seemed to help his discrimination of forms. Numbers were far easier for Giovanni than reading. He needed less elemental drill in mastering them. At times, in spite of his fine application, Giovanni displayed a scatter-brained quality in his thinking which made the teacher wonder whether it might be the result of his long association with his insane uncle.

At the end of a year in the observation class Giovanni was reexamined. This time his mental age was 7 years and 10 months, and his intelligence quotient 86, a gain of five points. Instead of failing on the construction puzzles, he made 8-year records in both A and B. He got the idea of association by opposites this time, though his accuracy on an easy list was only 32.5 per cent. His reading and arithmetic were not tested, but the class report was that they were of third-grade rank.

Giovanni entered a regular third grade the following fall. His home conditions were somewhat better because his insane uncle had been removed the previous spring to an insane asylum. His year

in the third grade, however, was very much broken up by the epidemic, the illness of his teacher, and his own transfer to another school in May, 1919, and he failed to pass. His mother had taken a position as cook in a good children's institution and Giovanni lived in the institution and attended the neighboring school. Giovanni has had good care and good food since his mother took this position.

During his second year in the third grade in January, 1920, Giovanni was examined for the third time. His mental age was 8 years and 2 months, and his intelligence quotient 76. No supplementary tests were given except educational ones. Giovanni's reading was still only third grade, his arithmetic second grade, and his spelling second grade. In the year and a half since leaving the observation class and notwithstanding his improved home conditions Giovanni had gained little if anything in school work. His teacher reported that he was very willing and conscientious.

On this occasion Giovanni told the examiner that his father had been gassed in the war and was in an Army hospital. He seemed very proud of the fact.

Giovanni spent the following year in the fourth grade. In June, 1921, he was examined for the fourth time at the age of 12 years 1 month. His mental age was 9 years and 6 months, and his intelligence quotient 79. In graded opposites he also had a $9\frac{1}{2}$ -year record. He failed to understand the directions for the Trabue completion test, though the instructions were given as explicitly as usual, and put two words in each blank. In academic tests Giovanni met a fourth-grade standard in oral reading, but scored below third grade in both rate and comprehension of silent reading. His routine processes of arithmetic were of fourth-grade rank, and his spelling about third grade. His teacher reported that he would be promoted to the lowest division of the fifth grade the following year.

Giovanni was last seen in July of 1921. His mother was still employed as cook in the same children's institution and had completely overcome her tendency to drink. The superintendent was very fond of her personally, and she in turn was devoted to the superintendent. Her work was excellent.

Giovanni's father, who was at the beginning of the war a reserve officer in the Italian Army, took out naturalization papers and entered the Army of the United States. He went to France with the troops and was gassed. At the time of our interview he was in a sanitarium near the city and Giovanni's mother was spending every cent she could on his care. Giovanni was exceedingly proud of his soldier father, and his affection for both his parents was intense. The blind and insane uncle had died.

Giovanni's mother was inclined to be foolishly indulgent to him, but his lack of progress in school we were forced to conclude was

primarily due to his very limited ability. His conscientiousness about his school work was as great as ever, though in the "home" he was lazy and would bribe other boys to do the small bits of work which the superintendent assigned as part of his training.

The future which we foresee for Giovanni is not brilliant and is enigmatic. If his habits of conscientious work continue, he may make a successful semiskilled worker. It is doubtful if he will be able to complete elementary school. If he finishes the sixth grade, he will be doing well. Much, we think, will depend on the people with whom he is thrown. Giovanni's capacity for personal devotion is great. If his devotion is fixed upon worthy objects, it will become a real safeguard to his limited intelligence, but if he finds himself betrayed and cruelly disappointed he might become desperate and do terrible deeds.

CASE 8.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Men- tal age (yrs. and mos.).	In- telli- gence quo- tient.	Construction puzzle.				Pintr cube.		Picture com- pletion.		Substitution.								Opposites.	
					A.		B.		Score.	Age norm.	Score.	Age norm.	Acc.	Time.	Acc.	Time.	Acc.	Time.	P 4.	Age norm.	Per cent.	Grade.
					Time.	Age norm.	Time.	Age norm.														
1st.....	3- 6-1917	7-10	6- 4	81	5'4"	10	5'4"	3	5-				100	551"	100	316"	100	166"	8	5	Failure.	
2d.....	6-12-1918	9- 1	7-10	86	120"	8	260"	8											32.5	Poor.		
3d.....	1-26-1920	10- 9	8- 2	76																		
4th.....	6- 8-1921	12- 1	9- 6	79	90"	9																
Number of test.		Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.				
												Acc.	Time.	Acc.	Time.	Acc.	Time.	I. Observation.				
1st.....																		I.				
2d.....																		II.				
3d.....																		III.				
4th.....																		IV.				
		Mainkin score 5, 8 years; graded opposite score 28, 9½ years; Monroe silent reading, below third grade.																				

1 Failed.

CASE 9.

We first saw Ethel at the age of 9 years and 6 months. She was at that time in the third grade at school, and had learned to read very nicely. Her difficulty was with numbers, of which she knew little or nothing. When examined, she had on the Stanford scale a mental age of 7 years and 2 months and an intelligence quotient of 75. Her supplementary tests were also very poor. In construction puzzle A she failed. In B she succeeded with an 8-year record. Her Pintner cube test was only a 6-year record. The substitution test was slower than that of the average 8-year-old and inaccurate on the learning page. In a list of easy opposites given orally she had a score of 62.5 per cent, which is rather poor for her age. In picture completion her score was as good as that of the average child of 12 years.

Ethel was a pretty, frail-looking child. She had badly enlarged tonsils and at times became very white and faint. When she seemed ill in school the teachers wished to send her home, but Ethel cried and said her mother had forbidden her to come home during school hours. The home was a comfortable apartment over a store. Ethel's mother, a young woman of charming appearance, had a history of questionable and irregular behavior. Her education had been limited by the fourth grade. Ethel's father was a bartender when we first knew her and after prohibition a meat cutter. There was but one other child in the family—an older sister with an excessively romantic name who was a deaf mute. This sister had attended the oral school for four years and had learned to speak. She did very good work in the first and second grades, but was not so good afterwards.

Ethel's older sister had already been in trouble and had been placed in a school for the deaf. The mother had been held to blame for her difficulty.

Just what experiences Ethel may have been through or how much knowledge she had of the real events in which her family was involved it is hard to say, but certain it is that she had far more knowledge of irregular social relationships than was at all desirable for a child of her age. Both she and her sister were known to use vile language, and Ethel was guilty of vulgar writing in the basement. They were both regarded as precocious in matters of sex.

Ethel was a difficult child to estimate. She had an obvious love for romance and thrills and a dramatic instinct for making an impression, which made it difficult to know how much of her somewhat wild tales to believe. She told in detail of having been playing with a little girl who was taken off by some men and murdered, and of how she afterwards helped the police to find the body. The event really happened in her neighborhood, but whether she had really participated in it or merely appropriated it to make herself interesting we

could not be quite sure. Her mother denied that she was involved in it, but we were inclined to believe the child. Later in her school career, Ethel herself was just being dragged into an alley by some men when her father happened along and rescued her. She seems to have been the kind of a child to whom things happen. She had the manner of a chorus girl, and there was a secretiveness about her and a hardness of expression which bred distrust. The child had a beautiful voice which she was anxious to cultivate and use. She told of singing at night in movies, but could never be pinned down to definite times and places. Though the mother denied the tale, we were inclined to think she did so only because she knew she was breaking the child labor law and feared we might stop it. Other children confirmed the story.

Ethel could read excellently in the third reader when she entered the class, but soon exchanged it for a fourth. She was so dramatic in her reading that the children loved to hear her. She also copied poems, learned them by heart, and wrote them from memory. She was always cheerful and helpful in tutoring the other children. Arithmetic, however, seemed to arouse only resistance on her part—no real effort. It seemed impossible for her to take the trouble to get accurate results. The concrete oral work was completely beyond her. She would add the price and the quantity instead of multiplying them. By dint of buying objects and constructing number families she at length came to a dim realization of numbers, but her vague, romantic, picture-show consciousness was opposed to the precision of numbers.

When retested at the end of the year Ethel had an intelligence quotient of 81, an increase of 6 points. Her supplementary tests were also somewhat better. Substitution was better done, though not up to her age standard. The practice pages were still as slow as an 8-year-old and showed no improvement from page to page. The learning page was only 80 per cent correct. The Pintner cube test was the same as the previous year, 6 years. In the opposites test she had previously made a record of 62.5 per cent when the test was given orally. This time she was able to write the opposites herself, but she lost the idea when she had completed a little over half the page, and her record was only 50 per cent correct. Her academic tests gave her a fourth-grade rank in reading, but not more than second grade in arithmetic. Her difficulty with numbers was obvious and she worked very slowly.

Not only her intelligence quotient and her academic work but her manners also improved noticeably during the year.

Ethel was placed in the fourth grade the following year and passed it in spite of her poor record in arithmetic and in spite of the broken

year. Her school principal felt that her failure in arithmetic was due to a specialized defect and that she should not be held back because of it. During her year in the fifth grade (1919-20) she had a third individual examination, given in January. Her mental age on the Stanford revision proved to be 9 years and 7 months, and her intelligence quotient 77. In graded opposites she had an 11-year record, in the Trabue sentence completion test a seventh-grade record, and in the Healy picture completion test No. 2 a superior adult record.

Her academic tests were of fifth-grade level in oral reading and in spelling, but in arithmetic she was barely able to pass a third-grade test.

An Otis group test, given in March of the same year (1920), gave Ethel a score of 42 and an intelligence quotient of 71. She was promoted to the sixth grade at the end of the year, but failed in arithmetic and English. She started to make up these subjects in summer school, but after seven days' attendance gave it up. Later she told Miss Ferris a characteristic lie about having given up summer school because the teachers told her her heart was too weak to stand the strain. The degree of her failure in arithmetic is illustrated by the fact that she was totally unable to tell Miss Ferris how much money she would have left in the bank if she put in \$1,000 and then drew out \$500, or how many books she could buy for \$24 at \$3 apiece. We hope she was not romancing when, during the course of this visit, she assured Miss Ferris that she had never liked school until she went to the observation class, but that she had liked it ever since. Ethel is being advised to go next year to the sewing trades school, where she can learn sewing and housework. She will probably leave school and try the stage as soon as she is old enough. Her career of singing at night in shows still persists, according to her own statement. She is under age for such employment and none of the managers would admit employing her.

In our judgment Ethel has been somewhat overestimated by the school because of her excellent reading, her facility with language, and her dramatic manners. We are inclined to class her in mental level as a border-line case of mental defect, granting that she has some special abilities not usually found united with her very limited general ability. If the school continues to disregard her failure in arithmetic, she may complete (?) eighth grade. She is the stuff that the traditional chorus girl is made of. Her really good voice and her interests and instincts all point to the possibility of a limited success on the light opera or vaudeville stage. There is no reason to expect conventional morality from Ethel. Only some very lucky accident of personal relationship with people of fine ideals who gain an ascendancy over her would be likely to keep her within the traditional limits of social morals.

CASE 9.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Mental age (yrs. and mos.).	Intelligence quotient.	Construction puzzle.				Pintner cube.		Picture completion.		Substitution.								Opposites.		
					A.		B.		Score.	Age norm.	Score.	Age norm.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Per cent.	Grade.	
					Time.	Age norm.	Time.	Age norm.															
1st.....	1-31-17	9-6	7-2	75	5'	10	288"	8	4	6	13	12+	98	313"	100	282"	98	212"	70	336"	8-	62.5	
2d.....	6-13-18	10-11	8-10	81	150"	7			4	6	81	Adult ²	100	200"	100	220"	100	205"	80	195"	8-	Fair.	
3d.....	1-28-20	12-6	9-7	77																	50		
Number of test.		Miscellaneous.							Reading.		Arithmetic.		Spelling.		School grade.								
1st.....															III.								
2d.....															Observation.								
3d.....		Trabue 18 pt.; Grade VII; graded opposites score 34, 11 yrs.; National intelligence scale score 42; mental age 9; intelligence quotient 71.							IV.		II.		II.		V.								

¹ Failed.² Healy No. II.

DEFECTIVE CHILDREN.

CASE 10.

Wade was first examined at the age of 7 years and 6 months, in the fall of 1917. He had a mental age of 6 years and an intelligence quotient of 81. His tests were very scattered and irregular. Except for the Pintner cube test, which was normal, his supplementary tests were much below the level of the Stanford record. Construction puzzle A he could not accomplish even after he was shown how. His interest could be held for only a moment. Wade had spent a year in kindergarten and two in the first grade and had failed even to learn to write.

Wade was a rosy little fellow with no physical defects, although his teacher felt that his long, outstanding ears and the peculiar contour of his head were to be regarded as stigmata of feeble-mindedness. The child had a slight stammer. His expression was happy and his voice shrill.

Wade had a fairly good home, though it was in a wretched building and a crowded neighborhood. His father was a baker and his mother a neat, careful German housewife. She was often brutal in her discipline of the children—as when she hit Wade a vicious blow over the head in the presence of the teacher because he was not learning his lessons. We could never learn of the presence of nervous or mental disease in the family. Wade was the eldest of four children. He made himself useful at home, helped to care for the horses which drew the bakery wagon, and sold papers. He seemed able to make change in this occupation. His parents were interested in his school progress and had been helping him at home. At the teacher's request they bought him a set of dominoes to help his arithmetic. However, the first visit to the home confirmed the reputation Wade had for incorrigibility. He defied his mother several times during Miss Ferris's visit.

When Wade entered the class he had not made a beginning at reading, writing, or spelling. He could make some of the numbers but could not even count to 10. Wade proved to be a very disturbing element in the class. He would follow the teacher about the room, stammering out all manner of requests in his shrill voice. When he failed to get all he wanted he would storm and cry and kick and threaten to go back to his other class. Every effort was made to interest him, but, beyond listening attentively to stories, there was little he could do. He made a slight beginning in writing and after three months in the class he began to learn the letters from the little rote song and to build words with letter cards. He learned at home to count from the dominoes and to recognize num-

bers up to 12. The child showed so little response to the teaching and was so disturbing an element in the class that he was recommended for a reexamination.

On the second examination his mental age was less than on the first one, 5 years and 7 months, as against 6 years on the first test. His intelligence quotient had fallen from 81 to 72. He told a long tale about four older brothers and sisters, which his mother assured us was a fabrication. He had been telling the same tale at home, and his parents had in vain assured him that his younger brothers and sisters were the only ones he had. Wade was so evidently defective that he was transferred to the school for defectives, where he still is.

Our next contact with Wade was in the summer of 1921, when Miss Ferris visited his home. It was, as before, a neat, well-cared-for tenement of three rooms. This time it was on a hillside, airy and pleasant, with a view over the city. Wade's mother's report of him was more roseate than the teacher's. She said that he read the paper every morning, and that he was employed by a neighboring druggist to deliver packages, an occupation in which he was deeply interested. Wade himself, when discovered in his bathing suit at the playground pool, looked brown and healthy and happy. The druggist who had been his employer reported that he had tried the child for two weeks, but that, "though honest as the day is long," he was totally unreliable. He would lay a package down wherever he happened to be when he encountered the other boys, and play with them all afternoon, utterly oblivious of the package.

Wade's teacher said that he seemed to be deteriorating, and learned nothing in school. She scorned the idea that he could read the paper. Furthermore, she said he was notoriously troublesome in school. Even the teachers who did not know him personally knew his reputation as one of the incorrigible boys of the school for defectives. The manual-training teacher reported that Wade was a bad failure in manual work. He would not try to do anything, and had been caught several times stealing materials. Perhaps his employer had been too lenient in interpreting his behavior with packages.

Wade is unquestionably a defective child, and, in our judgment, one of the type of defectives who is almost sure to make trouble for society later on. He should be placed in an institution where he might be made useful under strict supervision. It is possible, though not probable, that institutional training might make him safe for life in the community later on.

CASE 10.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Men- tal age (yrs. and mos.).	In- telli- gence quo- tient.	Construction puzzle.				Pintner cube.		Picture com- pletion.		Substitution.								Opposites.	
					A		B		Score.	Age norm.	Acc.	Time.	Acc.	Time.	P 1.	P 2.	P 3.	P 4.	Age norm.	Per cent.	Grade.	
					Time.	Age norm.	Time.	Age norm.														
									5' +	10			5	7								
1st.....	10-22-1917	7-5	6-0	81	5' +	10			5	7												
2d.....	2-20-1918	7-9	5-7	72																		
Number of test.		Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.				
1st.....												None.....		None.....		None.....		I.				
2d.....																		Observation.				

Failed.

CASE 11.

Luella was first examined in the spring of 1917, at the age of 9 years and 8 months. She had a mental age of 8 years and 4 months and an intelligence quotient of 86. On the performance tests her records were higher. She had at least 12-year records on construction puzzle A, picture completion and substitution, and 10-year records on construction puzzle B and the Pintner cube test. In association by opposites she was no better than a 6-year-old; her accuracy on an easy list, given orally, was 55 per cent. Luella had spent three years in the first grade and part of one in the second under capable teachers, but was unable to recognize word or letter.

Luella's general health was fair, though she was somewhat anemic and undernourished, and her teeth were in bad condition. She had but one outstanding physical defect, a deformed left hand, which was the result of an accident in infancy. She was a perfectly normal infant, according to her mother, who walked at 14 months and talked at 17 months. At the age of 19 months she had attempted to follow an older brother across an interurban track. She climbed up the embankment and had grasped the track with her left hand when a car came along and severed the fingers of her hand. Although Luella had at this time made a fair start in talking, she did not try to speak again for a year. The physician in attendance attributed this to nervous shock. The child is still very nervous and sensitive about her defect. We have been unable to discover any history of nervous or mental disease in the family.

Luella's father was dead. He had been, according to the mother's statements, a man of high-school education and a good man with no bad habits. His occupation had been that of traveling salesman. Her mother was a woman of poor education but good intentions. She had left school at 13 years, after the completion of the fifth grade, because she could not buy the books to go on. Before her marriage she had been a domestic servant. Her first husband, father of Luella's half-brother, she divorced because he drank and was abusive. Luella was the child of her second marriage. While the child was in the observation class her mother married for the third time.

Luella's home was a comfortable place. She was kept clean and helped with her lessons. Her mother worked away from home, and Luella was left too much to her own devices out of school hours. She had been petted and spoiled by her mother and her half-brother and was somewhat hard to manage.

Luella's four years in school, supplemented by help at home, had left her without a beginning of ability to read. She could, however, copy script and copy the printed page perfectly. Her handwriting

was good. She could memorize in purely visual terms a column of 10 words and write them accurately from memory, without being able to identify a single word by itself. All she could do was to reproduce the entire column in its order. She did this even when the words were dictated to her in a different order. She could also memorize poems and stories. Her number work was much better. She had learned the number symbols, and could do all the arithmetic of the second grade which did not involve the use of written or printed words. She did not even seem to know that she had not gotten the point about reading and writing. For instance, she asked her teacher how to spell the name of one of the teachers, and then she wrote: "Miss A—— is a ephat pimjet" and read it, "Miss A—— is a good teacher." Then she asked for the name of another teacher and wrote: "Miss B—— is a ephat pimjet," which she read, "Miss B—— is a good teacher." Sometimes she would write little songs and verses, the music without melody, the words unintelligible. Luella's practical ability was good. She could sew in spite of her deformed hand, and was capable about housework. She loved to put the schoolroom in order. She could crochet quite skillfully, and she liked to draw.

Luella learned the letter names from the rote song. The letters were written on the board in four lines, like a verse, and she probably retained it in her visual memory. She then pointed to the letters as she sang the song. Finally individual letters were called for by the teacher, and found by repeating all the previous ones. This and word building by letter cards, rote spelling, and spelling from the written or printed word, finally served to fix the letter names. To fix the sounds was still more difficult. It was done by the visual method for teaching phonics, supplemented by much spelling and by having the letter sounds given slowly by the teacher and the name supplied by the child.

After a year in the observation class, Luella was given her second mental examination. This time her mental age was 9 years and 4 months, and her intelligence quotient exactly the same, 86. In association by opposites, her score in the oral form of the test had gone up from 55 to 67.5. No other supplementary tests were given except academic ones. Luella was still unable to read. She called dog "ball," and was utterly helpless in the face of a page from a first reader. She wrote a very few words correctly from dictation—man, cat, dog, boy, and hat. Some of these same words she failed to recognize in print. However, her attempt to write "room" resulted in "rune," "child" was "tont," and "good" was "could."

Luella was retained in the observation class the second year. By the middle of the year, Miss Ferris felt that she had done all she could for the child. She was making little progress and was harder

to control. Her interest in the boys seemed abnormally great and her behavior was silly. At times she used foul language to other children. She was less well-cared for than she had been before, and there was an impression that her family was losing interest in her and becoming impatient. Perhaps her new stepfather was unsympathetic. None of us thought she was as yet a candidate for a class for defectives, but we were convinced that she could never be sent on in a regular grade. Accordingly, we recommended her for transfer to an opportunity class nearer her home, where she would have the advantage of small classes and instruction in sewing and housework. She was enrolled in this school in February of 1919. At the time of the transfer Luella's mother went to see Miss Ferris to discuss the matter. She cried, seemed very unhappy, and gave the impression that life was very difficult and the future dark, for she was doing some things of which she was ashamed and which worried her. She was most appreciative of the kind of influence which had surrounded Luella in the class, and uneasy about her neighborhood environment.

At first the opportunity school reported that she had taken hold of the work beautifully. She was placed in a third grade. Her number work was reported as of third-grade rank, and she was reading, though very imperfectly, in a second reader. At the end of the year Luella was promoted to a fourth-grade opportunity class. In January of that year (1920), she was given her third mental examination. Luella was now $12\frac{1}{2}$ years old. Her mental age was 8 years and 10 months, and her intelligence quotient 71. No supplementary tests were given. In oral reading her rank was that of a child who has completed the first grade. In arithmetic her attainment was about that of the end of the second grade for addition, but she could not do subtraction. Spelling was of second-grade level, though some of her errors were very bad ones. For instance, "sold" she spelled "slot," and "soon" she spelled "sloun."

Luella's schoolroom behavior was never good. While in the observation class she would at times make pitifully hard efforts to reform, with some success. At other times she was "just a little demon." In the opportunity class, too, she gave trouble and seemed to grow more, rather than less, difficult. She was so uncontrolled that if one of her classmates irritated her she tried to strike him. Her efforts at control grew less.

Luella's falling intelligence level, her lack of school progress, and difficult behavior all made us feel that she was a suitable candidate for the school for defectives. She was transferred there in April of 1920. After a year in the school the teachers reported that she was doing second-grade work very indifferently. She could read in the first three readers in the sense that she could call most of the words,

but she still failed to grasp the thought of what she read, and missed many essential words. She disliked reading. Her number work was somewhat better, and her handwork good. The child was, as before, unruly and stubborn when her inclination did not go with the task. At other times she was apt to be affectionate and anxious to please. She had apparently ceased to use vulgar language—a habit which rarely escapes the vigilance of the teachers of the special school.

Miss Ferris visited the family in July, 1921. She found them living in a pleasant rented house, where they had two roomers. The halfbrother was in the Navy, and was sending money home regularly. The stepfather worked in a paper factory. The mother and the house were neat, but Luella, tall and thin, was dressed in dirty ragged clothes with sandals on her feet, but no stockings, her hair unkempt, her face pale and hollow, and her shoulders stooped. She was a pitiable object. Her neglected appearance the visitor interpreted as the expression of her own wilfulness. She still kept her cheerful smile, though she seemed to understand that something was wrong, and that she must make the best of it. To entertain her caller she sang a simple cheap street song, playing an accompaniment on the piano—a painful performance.

Luella's mother's eyes filled with tears as she looked at her and told Miss Ferris how deeply disappointed she felt at the child's continued inability to progress at school. She said that she was sure it was "spite work" which had sent Luella to the special school, but she did not say it with conviction. The child's apparent neglect had led at one time to a complaint to the humane society and a visit from its officer. The mother was still filled with indignation at the memory. The officer, like Miss Ferris, had found nothing inimical to the child's welfare in the home.

The outlook for Luella is discouraging. Neither her ability nor her behavior holds forth hope of success in even the simplest career. She was never a modest, clean-minded child. Undue sex interest is already evident. Her one asset is her practical ability in housework and sewing. The best hope is in a protected domestic life at home, but her mother, while still interested in her, and feeling her problem poignantly, is scarcely capable of coping with it permanently. Institutional life seems the only wise solution.

CASE II.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Mental age (yrs. and mos.).	Construction puzzle.				Picture completion.		Substitution.								Opposites.		
				A.		B.		Pintr cube.	Age norm.	P 1.	P 2.		P 3.		P 4.		Per cent.	Grade.		
				Time.	Age norm.	Time.	Age norm.				Acc.	Time.	Acc.	Time.	Acc.	Time.			Acc.	Time.	Age norm.
1st.....	5-11-1917	9- 8	8- 4	43"	12+	158"	11	14	10	13+	98	272"	98	163"	100	139"	100	107"	12+	Poor.
2d.....	9-13-1918	10-10	9- 4	86																Do.
3d.....	1-16-1920	12- 5	8-10	71																
Number of test.		Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.		
												A few words; all the letters.						II. Observation.		
1st.....												I		II		II		IV. Opportunity.		
2d.....																				
3d.....																				

CASE 12.

Catherine first came to the office in September, 1917. She was then 9 years and 5 months old and had a mental age of 7 years and 8 months and an intelligence quotient of 81. Her supplementary tests were some of them above and some below this level. In association by opposites she was a complete failure. In picture completion and substitution she had 9 and 10-year records. She succeeded with the construction puzzles with a 6-year record on A and a 13-year record on B. Catherine's physical condition was exceptionally good. She was a rosy, rugged, aggressive child, with a pleasant smile and an attractive voice. No physical defects were discovered in the medical examination. Her eyes and ears were entirely normal. In spite of her good physical condition and her relatively good intelligence quotient, her school work amounted to very little. She had failed in the first and second grades and had finally been placed in the third grade without having done the preliminary work.

Catherine had a neat, fairly well-to-do, and cheerful home. The family consisted of mother and father, good, wholesome English working people, and an older brother and sister. There was one married sister. The brother, at the age of 14 years, was in the sixth grade, and was given an Otis group examination in December, 1919. On this his intelligence quotient was 78. He repeated the sixth grade, and then went to work, where he has held a position as an errand boy for almost a year, and has given satisfaction. The older sister was a saleswoman in a department store, and was a very nice, attractive girl. She, too, had had trouble with school work in the early grades, but had suddenly blossomed out and had finished the eighth grade at 16 years. The family were not troubled about Catherine's school failure, because they thought she would be like her older sister. The mother, father, and older sister all worked away from home, but evenings at home were pleasant. All of the older members of the family were willing to help Catherine, but they petted and spoiled her too much.

When Catherine entered the class she had made a start at reading but knew less than half of the first-grade words. Her writing was poor, numbers entirely uncomprehended, and spelling impossible. While she could sound out words phonetically, they seemed to have no meaning for her. She was an observant child. Nothing escaped her but the content of her lessons. Her outstanding characteristic was her social sense—her intense interest in people. She seemed to be so deeply interested in the other children that there was no way to get her to attend to her lessons. When the teacher was called to the telephone or was answering the questions of a visitor, Cather-

ine would act as teacher and administer affairs with real grace and precision. The children enjoyed it as much as Catherine. When the teacher tried the experiment of letting her completely alone for a period of time, after giving her some work to do, she would sit for as much as half an hour content in observing everyone around her and now and then giving some help or advice. She could no more be enticed or compelled to learn by any of the usual methods than the proverbial pony could be made to drink. People alone could interest her, and people responded generously with an interest in her. Men particularly found her attractive. Two of the masculine school officials who came in contact with her commented on Catherine's charms, though Catherine was acquitted of any conscious effort to attract the attention of men or to be unduly pleased by it. The people in the tenement house where she lived all loved her and called her their singing bird, because she always came up the stairs singing. When Fred was ill and Miss Ferris went to see him his special request was that she would send Catherine to visit him.

Finally the teacher tried to turn her social instincts to account by saying to her, "Catherine, will you teach this little child these words for me?" All aglow she tried, but she did not know the words herself! That brought her to the teacher with a real wish to know. For the first time she had a motive for learning which neither native interest nor an interest in her own success could supply. The joy of teaching others proved to be in itself a potent enough force to make her learn many a lesson. She learned by the use of phonics, by comparing and by rote spelling, but seldom by the use of context. It was the mechanics of reading which she conquered, and the result was little better than calling words. The stories had to be read aloud by other children before she could derive their content.

In numbers she was little better. Numbers seemed to call forth the "negative will." Given some bit of the school housekeeping to do she was prompt and efficient, but lessons often roused antagonism. For this reason she was frequently stubborn and sulky with her teachers, and they alone failed to feel her charm. The teacher to whom she went after leaving the observation class reported to us that the child was accomplishing nothing and was in a constant state of resistance to authority, but always charming to her childish companions. She displayed at times a most unchildlike conceit, which, combined with her tendency to insubordination, made her a frequent problem of discipline. The whole picture suggested a child of small ability, but far from humble spirit, who reacted to her continued failures with aggressive conceit and resistance to attempts at instruction.

In March, after six months in the class, the teacher's notebook said:

Reading very much improved, but had to sound out the word "winter" before she could pronounce it. Could not get it from the context. The word "child" she insisted on reading "chilled," although she was reading about children. The fact that the passage made no sense if the word were chilled did not concern her in the least.

A few weeks later the notebook says:

She has taken a surprising sprint forward. She seems to be interested in the work for its own sake. These last two weeks have done wonders for her.

In May, after eight months in the class, the record is:

In spite of occasional lapses, Catherine has gone forward until she is doing fairly good third-grade work. My conclusion is that her trouble was never inability alone but inability in combination with pure willfulness.

What this comment does not make clear is the fact that probably the willfulness and negativism were secondary results of continued failure and consequent criticism.

When she was retested in June, 1918, Catherine's intelligence quotient had fallen from 81 to 80. She was still a failure in the construction puzzles and her opposites test was very poor—45 per cent on an easy list. In substitution she had improved very much; her record was normal. She failed in a Trabue sentence completion test; only two sentences were correct. Her academic tests were only those of the second grade, though her teacher felt that she could have done better had she wished. Her small accomplishment led us to recommend an opportunity class for the following year, but for some reason she was kept in a regular fourth grade. It was the year of the epidemic, and although Catherine accomplished more than her teacher really expected of her, she could not be promoted to the fifth grade. Her work slumped toward the end of the year.

The following year (1919-20) she was entered in an opportunity class, hoping that the handwork and the smaller group would enable her to do better than in a regular class. In February of that year, at the age of 12½ years, Catherine was given her third test. Her mental age was 8 years and 10 months and her intelligence quotient 71. The only supplementary tests given were educational ones. Her reading and spelling were of second-grade level, and her fundamentals of arithmetic of third grade. Her falling intelligence quotient and her very slight academic progress since leaving the observation class made us feel that the school for defectives was the most suitable place for the child. She was transferred to that school in the fall of 1920. Catherine's teachers in the school for defectives reported that she took a great interest in cooking and in sewing as long as all went smoothly. If she were compelled to

rip her work and do it over again she became furious. Rebellion against authority was still one of her outstanding qualities. Her extreme popularity with the other children continued, and as yet she was displaying no undue interest in boys.

A visit to the home in July, 1921, found the family intact, and the mother and father engaged at home in their trade of custom tailoring. The father had had a stroke of paralysis, but had recovered sufficiently to work. The parents were entirely unable to see any serious defect in Catherine. Her school failure, they thought, was due to mere nervousness, which they attributed to an operation for appendicitis at the age of 7. They were very much discontented with her place in the special school, and said that the family had decided that she must finish the eighth grade if it took her until she was 21.

The teachers of the school for defectives agree with us that Catherine is unquestionably a moron, not easy to recognize as such because of her superior social sense. She will make little, if any, further progress with academic work. A girl as beautiful, as socially attractive, and as hopelessly limited in intelligence as Catherine would be in a perilous position if it were not for her excellent home training and home care. As it is, she may get through life without suffering or causing any tragedies. So strong and industrious a child should be able to find some task in the industrial world to her liking, and perform it well under supervision. She will probably always be subject to sudden outbreaks of temper and fits of stubbornness. From the point of view of eugenics, Catherine should, of course, be prevented from bearing children, but so long as there are so many worse prospective mothers left at large, it does not seem fair to single her out for segregation or sterilization.

CASE 13.

Matthew was first examined in November, 1916. He was then 8 years and 6 months of age and tested 7 years and 6 months by the Yerkes point scale. His intelligence quotient was 88. The only supplementary test given was substitution, in which he fell far below an 8-year standard because of his excessive slowness, though he was able to perform the test with fair accuracy. He had spent a year in the first grade, had been tried in the second, and put back into the first.

Matthew was a beautiful child and very perfect physically according to the physicians. He had posed as a sculptor's model. In spite of his apparently perfect physique he had a strange lack of muscular coordination. He was piquant and charming in manner, was truthful, and produced on the whole the impression of being manly. However, he was at times seized with an impulse to be really cruel to his schoolmates. Matthew said that his eyes were weak, but glasses failed to improve his school work.

Matthew's home of a few rooms was neat and clean. His father, an illiterate man, had deserted the family, though he still contributed to their support. The account of the affair which Matthew's mother gave at the office was that her husband did not like her because she was so much better educated than he. She had finished the fourth grade in school, whereas her husband could not read or write. She said the reason her husband was illiterate was that he had lived in a remote town in the country in Ohio and was never sent to school. Since some of his sisters finished the high school, this explanation seems improbable. After becoming adult, so his wife says, he had refused to try to learn to read and write. Matthew's mother had a picture of four generations of the father's family, in which Mr. B——'s father and grandfather appeared as competent-looking people, a farmer and a business man, while Mr. B—— himself looked very inferior to them. He was a teamster. Later we learned that not merely resentment at his wife's superior education was responsible for his desertion but the attractions of another woman, with whom he lived for some time, were at least a contributing cause.

Matthew's mother was a conscientious, hard-working woman, who supported the children by going out by the day for washing and cleaning. Her health had always been good. She was somewhat ignorant and superstitious. The children were fed on beer as babies, but they were sent regularly to Sunday school, and she was obviously doing her best to bring them up well. Suggestions from the school were gratefully received and carried out as best she could.

There were three children, an older brother and a younger sister, and Matthew. The brother at 14 years was in the sixth grade. His mother said he had always been slow, and that she had considered Matthew brighter than the brother. She would not have been surprised if the school had complained of the inability of Arthur to learn, but she was astonished that Matthew had trouble. The little girl she considered the brightest of the three.

When Matthew entered the class, after spending three years in the first and second grades, his academic accomplishment consisted in ability to copy script neatly. He knew few words and had not learned all of the letters. When he attempted to read he committed absurdities, such as calling "they," "was," or "boy," "shall." He had not understood that reading should make sense. Even after mastering all the letters through the rote song, he could not (or would not) connect them with the sounds. Matthew was one of the few children who seemed unwilling to learn. Apparently his years of failure had exasperated him so much that he hated the school régime. It took drastic measures to cure him of the habit of strolling in an hour late both morning and afternoon. His experience had led him to believe he could not learn, and believing this, he escaped from school mentally, even when present in the flesh. He idled and played, thought up devices for entertaining the class, and preyed on everybody's time. Many a fine lesson did he ruin for everybody by creating a diversion just as the point had been reached.

When told to choose his own work, Matthew would sometimes choose the anchor blocks, but instead of following the colored plate he would make his own bridges out of rulers and blocks, and tear out paper men. He showed both imagination and ability to realize his imagined project, but no power to follow the plan of another. As far as possible, therefore, he was allowed to choose his own methods, but nothing seemed to serve to fix the school work in his head. Rote spelling, comparison of cards, sentence building, and word building all failed to leave impressions that could be relied upon. Number combinations and counting by 2's and 3's became loosely fixed, but his usual response to number lessons which the other children enjoyed was to say "I can't." Even when he occasionally performed part of a lesson, it seemed to disappear and leave no trace.

By January, after four months in the class, the teacher writes: "He seems to be settling down slowly into something resembling a contented animal stage of existence." He had dropped his pranks and was dreaming instead. He had occasional flashes of wit and possessed an amount of general information which seemed to belie the impression of stupidity which his school failure produced.

In February, after six months, in which his accomplishment was practically nil, he was reexamined by the Stanford revision, a method not previously employed. This time his mental age was 7 years and 10 months, and his intelligence quotient 81. In association by opposites he had a fair record on an easy list. Picture completion was below an 8-year level, though not a complete failure. His intelligence quotient, combined with his occasional ability to think and think well, made us feel that he was not a candidate for a class for defectives, and we decided to keep him until the end of the year. Shortly after this Matthew began to study—perhaps for the purpose of retrieving his fortunes sufficiently to be allowed to remain in the class. A notion of what reading really meant seemed to come to him, through the process of constructing his own answers to questions which he had learned as night work. For instance, he learned, "Where are you going at noon?" and constructed the answer, "I am going home"; then, "Where are you going after school?" "I am going to the store for my mother," etc. In writing the sentences, he asked for help in spelling and was given some phonetic drill. The method was slow, but progress was real. Meanwhile, his flashes of a superior type of intelligence continued. One of the class exercises was to have the teacher put a story on the board, the children read it, and then suggest a title for it. Matthew was frequently first with an apt title. For instance, when the story was about the day's doings of a child from the time he got up in the morning until he went to bed again at night, and the teacher asked for a title, Matthew suggested easily, "A school day." Late in May the notebook says: "Reading a few pages in the second reader, spelling a few words, and perfectly good in conduct."

Matthew's tendency to hurt the other children had been completely overcome by the end of the year by encouraging him to do things for the other children and to bring things to school for them. Being a philanthropist was an entirely new experience for Matthew, and he found it even more satisfying than inflicting pain.

Matthew was retained in the observation class a second year in the hope that he would yet rise to the opportunity and make real progress. By January of his second year in the observation class (1919) Matthew was still an academic failure. His reading was below a first-grade standard and his arithmetic barely first grade. He was given a third mental examination at this time at the age of 10 years and 7 months, and had a mental age of 8 years and 6 months, and an intelligence quotient of 80. His supplementary tests were all below an 8-year level except Healy picture completion No. 1, which seemed to call out one of his flashes of superior ability, though it had not done so before. In that his score was as good as the average child

of 15 years. Association by opposites, the easy list, gave a score of 62.5 per cent accuracy; the Pintner cube test, a 7-year score; construction puzzle A, a failure; and the substitution test, a score below the 8-year norms on the first two pages. After he had completed two pages, he complained of fatigue and begged to be excused from the rest. Matthew's bad failure, after five years of faithful teaching, the fact that his intelligence quotient was falling rather than rising, and his failure in supplementary tests made us feel that he was a suitable candidate for a school for defectives, though we rarely sent children with as high a mental test record as his, or those with as good an ability to tell stories and entertain.

Matthew entered the special school in January. A month later his mother called to protest. She objected to the distance, and said that Matthew had begun to steal money from her and to run away. She was very much worried. In September she protested again, but was persuaded to return Matthew to the school. His car fare was paid on stormy days. Meanwhile, one of the teachers of the special school, who was also Matthew's Sunday-school teacher, took an interest in the child and succeeded in reconciling him so thoroughly to the school that even his mother reported that Matthew was very happy and that he had ceased to worry her at all in behavior.

In January of 1920, about a year after entering the special school, Matthew was given his fourth mental test, at the age of 11 years and 7 months. His mental age was 8 years and 10 months, and his intelligence quotient 76. His oral reading was still much below the standard for the end of the first grade, his spelling was of first-grade rank, and his arithmetic second grade. Since the Stanford test had been used so often, we gave him the National intelligence scale to secure another mental age rating. On this his record was much poorer. His score was 23, his mental age 7 years and 5 months, and his intelligence quotient only 61.

Our last word from Matthew was in July, 1921, when Miss Ferris visited his home. She found the family reunited. The father had come back repentant after 8 years' absence and a very unfortunate experience with the other woman, and the mother had taken him back partly because she had injured herself in working and was scarcely able to keep on. The man owned his own truck and was working steadily and successfully. They were thinking of buying their own home. The older brother was at work as a press feeder, and was steady and reliable. He helped with the support of the family. Matthew was behaving well and had been earning \$1.50 a week by helping a market man on Saturday. His mother was still feeling grieved that he made so little progress with reading and realized how handicapped he would be if he remained unable to read. She still tried to interest him, but could not succeed. She was greatly

pleased, however, that it was now possible to leave her purse about the house without having money disappear from it and that Matthew showed no tendency to run away or be unruly. She felt that his stay in the observation class had been very helpful to him. Like so many mothers of abnormal children, Matthew's mother had a superstitious explanation of his peculiarities. She attributed them to prenatal influence. Some pictures of mermaids in a book belonging to the older child got on her nerves, and she became obsessed with the idea that her unborn babe was a mermaid. His unaccountability and his love for the water she attributed to this source.

Matthew's teacher in the special school made a report on him which had a familiar ring. He seemed bright, she said, in everything but his studies. Even the manual work of the school failed to appeal to him. He refused to try the work of the shop, and his manual-training teacher reported that he idled, played, and stole the materials.

We have no hesitation in calling Matthew a defective child, but he is not the common type of defective for two reasons—his general understanding and flashes of brilliance are much above the level of the common defective; and he has a twist in his personality which we are tempted to call definitely psychopathic. There is a feeling of uncertainty about what he will do next on the part of everybody who is at all responsible for him. His mother is constantly oppressed with a nameless fear whenever he is out of her sight. He has little power of inhibition, and there is no reason to think he can ever cope with any real temptation which comes to him. So far the only impulse of a criminalistic type which he had displayed was that to hurt other children—a tendency which seemed to have been conquered in the observation class. There is no prospect that he will ever acquire a usable knowledge of reading or written arithmetic. Altogether he presents the picture of a child of fine possibilities which are unable to function because of some fundamental lack. He is both the most promising child of the group and its worst failure. He may, like his father, be able to earn a living, but he will always be a weak link in the social chain and he may be the source of future tragedies.

CASE 13.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Men- tal age (yrs. and mos.).	In- telli- gence quo- tient.	Construction puzzle.				Pintner cube.		Picture com- pletion.		Substitution.								Opposites.							
					A.		B.		Score.	Age norm.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Age norm.									
					Time.	norm.	Time.	norm.												Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.	Age norm.
1st.	11-17-1916	8-6	7- 6	88					94	559"	98	505"	100	535"	82	346"	8-											
2d.	2-20-1918	9-8	7-10	81					7	8-				100	368"	94	355"			67.5	Fair.							
3d.	1-23-1919	10-7	8- 6	80	5+	2 0			5	7	15									62.5	Fair.							
4th.	1-15-1920	11-7	8-10	76																								
Number of test.		Miscellaneous.								Reading.		Arithmetic.		Spelling.		School grade.												
1st.																		I.										
2d.																		Observation.										
3d.																		I.										
4th.		National intelligence scale score, 23; mental age, 7-5; intelligence quotient, 61										II.						Class for defectives.										

1 Yerkes point scale.

2 Failed.

SUFFERERS FROM SPECIAL DEFECTS.

CASE 14.

Everett was first brought to the laboratory in April, 1917. At that time he was just 9 years of age. On the Yerkes point scale his mental age was 8 years and his intelligence quotient 89. His supplementary tests were somewhat below this level. In the Pintner cube test he had only a 5-year record. In substitution he was accurate, but far slower than the average 8-year-old. He failed to solve construction puzzle B. His Ellis object memory test was that of a normal 9-year-old, and construction puzzle A of a 16-year record. He had an excellent record for his age in association by opposites. Everett was at this time in the second grade, but was unable to read. He had spent a year each in the first and second grades. His work was medium and he had passed each time. The source of his trouble was a terrible illness which occurred in August, after he had completed the second grade.

Before his illness Everett's physical condition had been good. He had been well as an infant and had had no serious sicknesses. Weakness of control of the kidney was the only physical defect noted and this disappeared after his illness. His mother said he was a bit wild and hard to control, always more interested in play than in lessons, though he was never difficult to manage at school.

The illness which produced so profound an effect was at first diagnosed as intestinal poisoning. After four days the child became unconscious and remained so for a week. During this time he had one convulsion after another, involving his left arm and face only. The doctors almost gave up hope of saving his life. After a consultation, the diagnosis of meningitis was finally decided upon.

In three weeks after regaining consciousness Everett was around the house again. It then became evident that he had mentally returned to a state of infancy. He could walk but could understand very little spoken language. He had even forgotten the use of many familiar objects and had to learn to feed himself again. He also had to learn to understand spoken language and to talk. Of course all trace of what he had learned at school had disappeared.

No attempt at formal teaching was made until the following January. By that time he had regained his knowledge of the world of objects and had learned to talk. He seemed superficially to be normal. He was placed in the second grade in school. In three months he had regained his knowledge of numbers and had learned to write again. He could copy print into script very well. Reading, however, eluded him. At this time he was brought to the laboratory for

his first test. The recommendation was to begin all over again with reading under a skillful teacher.

Everett's family consisted of father, mother, and a little sister 6 years younger than himself. His father was a successful business man and his home conditions were excellent. His mother was devoted to the children, well educated, but not highly intelligent. She was troubled by Everett's condition but did not fully understand it, and was a bit inclined to be impatient about it. Her solution was to behave as nearly as possible as though there was nothing the matter with the child, partly because it hurt her pride to admit that there was. In pursuance of this plan, although Everett had made little progress with reading by the end of the year, he was placed in the third grade. At the same time the child was transferred to another school. He failed so badly in the third grade that his teacher thought he ought to be in a class for defectives and asked for another mental examination.

At 9 years and 8 months, measured by the Stanford revision of the Binet scale, Everett measured 8 years and 7 months and had an intelligence quotient of 89. His substitution test was more rapid than before, though still below standard for his age. The Pintner cube test was better, a 10-year record instead of a 5-year. The construction puzzles were similar, a success with A but a failure with B. The child was recommended to enter the observation class, but his mother did not finally transfer him until March, 1918, when he was 10 years old. Home tutoring had been tried meanwhile, but without success.

When he entered the class he was still unable to read. He could not connect letter and sound, and he could not remember word forms. He could copy printed pages in very good script, without knowing a single word which he copied. Miss Ferris commented on the sudden puzzled frown and vacant expression which was a frequent occurrence on some days and nearly absent on others: "It is," she said, "as though a sudden air pocket had been encountered by his thoughts."

Everett was anxious when he came to the class to read in the third reader. He seemed to feel it a personal disgrace to be put back into a second or first reader, a feeling which may have been fostered by his mother's attitude. Of course, he was allowed to try, but it was futile. He did not know even such common words as "with" or "man" or "bring." His speaking vocabulary was excellent. He could neither recognize nor spell number words such as "eleven," "twelve," or "twenty," though he was fairly proficient in number work so long as he did not need to express it with written words.

Everett was at first much disturbed by the noise of the observation class. The other children studied aloud, and he said he could not

study in all that noise. He was told to study aloud himself and think only about the story he was reading, and then he would not hear the others. He had to have a great deal of help to begin to study. The teacher had to be at hand to tell him the words he did not know and could not make sense without. Gradually he began to realize the story through the words, and then he began to get words from the context. Reading aloud seemed to help him, and he read a great deal. The reading was varied by word building and by memorizing the poem from the printed page (a great achievement), and then copying it on the blackboard from memory. Tutoring children who knew less than he was a pleasure to him and seemed to help the sense of isolation which his trouble had fostered. Less than three months from the time he entered the class the teacher's notes say: "He reads stories to the younger children and enjoys reading them." Number words he finally learned from using them in problems.

The kind of work he found hardest and seemed to resent was the language lessons, in which the task was to build up sentences from color words and size words. It was, perhaps, distasteful to him because the ideas expressed were so far within his grasp, though the technique of expressing them was still difficult. The teacher would say to him: "Everett, how is it that you have not written your sentences? How can I help you?" Everett would reply with easy confidence, and as though it settled the matter, "Oh, I can do them all." "But how are you to know that you can unless you do them?" the teacher would ask, whereupon he would set manfully to work, but with very indifferent success.

About this time most of the children of Everett's group were sent to try the work in a regular third grade. Everett, perhaps prompted by memories of the failures and humiliations of the regular class, begged to be allowed to stay, and was allowed to do so, although it was not possible to give him as much individual attention as before, since a new group was introduced into the class who had to be started in their work.

At the end of this school year, in June, 1918, Everett was examined in the laboratory for the third time. On this occasion his intelligence quotient had risen from 89 to 96. This time he had a 9-year record on the substitution test (the set of symbols used was different each time) and a normal record in association by opposites. He was still somewhat painfully slow in his reactions, though it was less noticeable than on previous occasions. His improvement in reading was extraordinary. He could fulfill first-year requirements in oral reading. In arithmetic he could almost meet the third grade standard. Since he had learned in this class far more in four months than he had in over a year before, the laboratory recommended that

he remain in the observation class to see if he could not more nearly regain his normal position in school.

Everett's parents were most appreciative of what the observation class had done, but they were, as before, keenly anxious to have him removed from any type of special class and returned to a regular grade. Everett, too, was anxious to get back to school in the suburbs where there were trees and play space. Accordingly, in the fall he was entered in a fourth-grade room, after having been tutored all summer.

Everett finished the fourth grade the following year sufficiently well to be promoted to fifth. In March, 1920, during his year in the fifth grade, he was examined for the fourth time. On this occasion, at the age of 12 years, his intelligence quotient was 92. On standard educational tests he ranked third grade (barely) in reading and fourth grade in spelling and arithmetic. It was still impossible for Everett to write an intelligible school composition. His handwriting was almost illegible when he undertook to write consecutive sentences, and the spelling weird in spite of the fact that he did fairly well in formal spelling lessons. He could not himself read what he had written. The condition was suggestive of some type of aphasia. His oral work was far better, but he failed of promotion.

So pronounced was Everett's failure in the fifth grade, that his teachers did not encourage him to go to summer school. Everett, however, begged to be recommended, and went faithfully all summer, a long distance on the cars. His mother said it was the first time he had shown any initiative about his education. The teachers at the summer school said that for the first three weeks Everett sat and sat, staring into space. Then one of them had a heart-to-heart talk with him, and, to the surprise of everyone, he roused himself, took hold, and made fine progress. His English was poor in form only. He could give a well-organized talk and his thinking was always clear and original. In spite of his miserable writing and spelling, he passed in all of his studies and was recommended for the B sixth grade.

Everett's home was visited in July, 1921. His care and surroundings are always of the best. His mother is still intent on obliterating, if possible, all trace of his illness. She thinks he is forgetting everything connected with it, and she wishes him to forget. It is never mentioned in his presence. At his mother's request Miss Ferris did not talk with him, for fear it would revive memories. A sight of him at school revealed a face somewhat saddened by failures, with his habit of frowning still present, but with a difference. The frown seemed to have become mere habit—a mannerism no longer, as at first, connected with his thinking.

Just how much of Everett's difficulty is to be attributed to his illness it is difficult to say. The principal of one of the schools he attended assured us that Everett's family was of very limited intelligence. His uncles had attended the school before him, and not one of them had gotten beyond the sixth grade. A first cousin, tested in the laboratory at the age of 11 years and 11 months, had a mental age of 9 years and 3 months and an intelligence quotient of 78. His supplementary tests, except for the construction puzzles, were no better. He was failing in the fourth grade, and his reading was no better than that of first grade. Another cousin left school at 15 years, after completing the seventh grade. His intelligence quotient on an Otis group test was 88. A third cousin completed only the sixth grade in the regular school, and then attended the sewing-trades school for two years. She has worked in tailoring shops since, and is successful in keeping positions and in earning at least an average wage.

The principal thought Everett was just like the rest of the family, and would have had trouble with school regardless of his illness. Two important pieces of evidence tell against this point of view. Everett's intelligence quotient is normal, and maintains its level from year to year. His type of failure, too, is quite different from that of the ordinary dull child. His peculiar handwriting, so cramped, irregular, and illegible, is totally different from that of any ordinary child of whatever level of intelligence. His ability to think clearly and to do excellent oral language work, which he is totally unable to transcribe, is not in the least suggestive of the typical dull child. Our judgment is that Everett's difficulty is chiefly the result of his illness, and belongs to the general class of troubles known as aphasias. It is very possible that he could be cured, or at least very much helped, if anyone with sufficient skill in the reeducation of aphasics could give the time to it. It is possible, too, that even without intensive skilled help he may gradually improve. We believe that a mastery of reading and writing is all he needs to carry him on to a high-school education.

CASE 14.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Mental age (yrs. and mos.).	Intelligence quotient.	Construction puzzle.				Pintner cube.		Picture completion.		Substitution.								Opposites.		
					A		B		Age norm.	Score.	Age norm.	Score.	P 1.		P 2.		P 3.		P 4.			Age norm.	
					Time.	Age norm.	Time.	Age norm.					Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.			Acc.
1st.....	4-4-1917	9	18	89	25"	16+	5'+	20	5				94	496"	100	249"	100	183"	100	167"	8-	Good.	
2d.....	11-24-1917	9-8	8-7	89	200"	6	5'+	20	6	10			98	336"	100	224"	100	138"	100	195"	8-	Good.	
3d.....	6-12-1918	10-2	9-10	96									100	262"	90	173"	92	149"	98	142"	9		
4th.....	3-11-1920	12	11-1	92																			
Miscellaneous.																							
Number of test.		Reading.										Arithmetic.				Spelling.		School grade.					
1st.....		Ellis object memory score, 72 (8+ years).																II.					
2d.....																		III.					
3d.....												I.				III poor.		Observation.					
4th.....		II+										IV				IV		V.					

CASE 15.

David was first brought to our attention by the principal of his school in April, 1918. He was at that time 10 years and 4 months old. His intelligence quotient on the Stanford scale was 95; his mental age 9 years and 10 months. His results showed a wide scattering of tests, from 6 through 14 years. In general, his immediate auditory memory was noticeably poor, while his judgment and common sense were definitely superior. The substitution test yielded a normal record—that of a 10-year-old child, including the memory page. In Healy picture completion test No. 1 he had an unusual record—a perfect performance. David had spent a year in kindergarten, three years in the first grade, and was then failing in the second grade.

David's general physical condition was good and he made a fine impression. He was a splendid, direct-appearing little fellow, who looked straight at you when he talked. He was always clean and neat. The doctor reported a slight visual defect, not sufficient to be corrected, and a slight auditory defect, but insufficient to be a serious handicap in a schoolroom. He had adenoids which had re-formed after a removal at 4 years of age. He also suffered from a speech defect, a sort of inability to get his words out. David had a history of several illnesses, reported to us by an older sister. At 6 months he had an attack in which he lost his sight completely for a few days and then recovered it. At 18 months his palate became paralyzed. Tonsils and adenoids were removed at the age of 4 years. During the same year he had an abscess which necessitated a mastoid operation. He lost the drum of his right ear and went through another operation on his ear at 5½ years.

David's family consisted of his mother, an older brother, and two older sisters. The father had deserted the family about six years before for another woman. The court compelled him to pay alimony. He had been a dissipated and, according to David's mother, a diseased man. The mother, in spite of constant ill health, worked in the leaf room of a tin-foil factory, which kept her away from home most of the time from 7 in the morning to 7 at night. Only one child, the oldest daughter, was of working age. She was one of the first girls registered in our placement office. She had gone to work at 16, after completing the eighth grade. During the three years since leaving school she had held three positions for factory work, interrupted by two illnesses of several months each, pneumonia and rheumatic fever. About the time we first knew David she had gone on the vaudeville stage after taking a three months' course of training. It is interesting to note that two years earlier the comment of the placement secretary had been: "Painted—much of her person displayed through

a filmy waist. Dressed in black. Does not seem to be as common as her appearance would indicate." David's home was always decent and as comfortable as his mother could make it. The home atmosphere was good. Not only the mother but the brothers and sisters were interested in David and sympathetic with him. Later the brother went to work and contributed all his earnings to the family. The second sister is only just of working age (August, 1921).

After his three years in the first grade David had been placed in the second, not because he was ready for it but because it seemed cruel to keep him another year in the first grade. He knew neither word nor letter, nor could he deal with number combinations above 10. His first-grade teacher was one who was very successful with normal and superior children, but had little skill or patience with those who presented unusual difficulties. In addition to David, four other children of normal intelligence who had failed to learn to read under her ministrations were brought to our attention. The others all learned under other teachers, but David was not helped by the change.

David entered the observation class in May, 1918. By fall his family had moved farther away and his attendance was irregular, partly because of the distance and partly because of the interrupted school term during the epidemic. In January, 1919, Miss Ferris felt that, in spite of fine effort when he was present, he had made no progress. It was still true that when he was asked to name a letter, any letter, he would invariably say first "e" and then "n," after which he would guess promiscuously any letter which came into his mind. It seemed impossible for him to learn and retain with certainty a single letter form or word form.

Thinking that perhaps inadequate auditory images of words were part of his trouble, David was sent to Miss Osborne of the oral school, for a period each day to see if she could teach him clear enunciation and help his speech defect. At the same time a sister of Miss Ferris, herself a very skillful teacher, came to visit. She became intensely interested in David, as all his teachers did—and devoted most of her time for three weeks to helping him individually. Under these conditions David learned his letters quite rapidly. Miss Ferris thought this was largely the result of Miss Osborne's drill. He also learned to read several pages in a primer. The effort required was heroic, both on his part and that of his teacher. In spite of his interest and genuine desire to learn, David was incapable of very prolonged periods of effort because mental fatigue set in rapidly. Even the few pages he had acquired were an uncertain possession. Sometimes he knew a word and again the same word eluded him.

In June Miss Ferris reported that he could copy print into script perfectly, that he could write and add numbers, though at times he

forgot the combinations, and that he knew a few words by sight, but still made the same mistakes over and over again. Miss Ferris thought part of the trouble was that in his four unprofitable and somewhat painful years in school he had learned to just sit and let things go by.

Meanwhile, Miss Osborne had come to feel that some of the methods and materials used with the deaf children and the speech defectives were so helpful to David that she would like to have him full time and try her hand at teaching him. The process of showing him in the mirror how new words look in the mouth seemed to help him greatly in acquiring new words. When David was given his choice in the fall of 1919 between staying in the observation class and going full time to the oral school, he chose the oral school. Miss Ferris felt that, in addition to his enjoyment of the work, other factors influenced his choice. The oral school was held in the main building, while the observation class was conducted in a temporary building in the yard. David felt a bit sensitive about having the other boys see him go back and forth to the special class. Perhaps the fact that the deaf children could not hear his mistakes also influenced him. Miss Ferris's notes say: "I have heard his voice quiver and have seen the dismay of his brave little soul when another child's eyes were fixed upon him in wonder while he struggled in vain with some familiar word." Something of this he was saved in the oral school.

David entered the oral school in the fall of 1919. In June, 1920, Miss Osborne wrote of him:

He seems a normal 12-year-old boy except in reading. He goes to the attendance office, gets the car tickets and signs for me, buys things for the cook and always brings back the right change. His progress in reading has been slow but sure. He has read all of Miss Fuller's primer, but still makes mistakes on lists of words, such as those on page 78. In Miss Upham's question book for second year he has had the lessons to page 22. He reads the question, answers it orally, and then writes question and answer on his tablet. His spelling is poor, but I can always tell what he is trying to write. He loves to be read to and can understand and reproduce orally any story suitable for sixth grade. In number work he has mastered not only addition but subtraction of five and six place numbers.

When in September of 1920 Miss Osborne was faced with the problem of David for another year, she felt that the doubtful mastery of a primer as the result of a year of individual attention was scarcely enough to warrant continuing the experiment without some reconsideration of the problem. Accordingly, she wrote to the laboratory asking for a reexamination of David. In her letter she said:

Every teacher with whom he comes in contact becomes deeply interested in David and tries to help him, yet we feel that results are in an inverse ratio to the teacher's time and energy.

David's second examination was given in September, 1920, when he was 12 years and 10 months old. This time his mental age, according to the Stanford test, was 11 years and his intelligence quotient 86. On graded opposites he had a $10\frac{1}{2}$ -year record. No other supplementary tests were given except educational ones. The examiner felt that the fall in intelligence quotient from 95 to 86 need not be interpreted as a lowering of the level of intelligence, but rather as the effect of his enormous handicap in not being able to acquire what other children do through reading, or to use reading and writing as a tool in dealing with increasingly difficult processes.

David's test in reading was a disappointment. It was no better than that of the average 6-year-old who has been in school about four or five months. In the first paragraph of Gray's oral reading test he failed to recognize "boy," "had," "the," "into," and "ran." The only words he could spell correctly were those of the "at" family, and the word "man." Even the "at" family was not a certain possession. The word "rat" he wrote correctly the first time, but when it was dictated a second time he wrote "rut." For "can," he wrote "cmon"; for "tan," "tom"; for "fan," "pom"; and for "pan," "thsn." For "it" he wrote "te."

His arithmetic was better. He was given the Woody tests in addition and subtraction, and made third and fourth grade records, respectively.

At about the same time David was examined by our psychiatrist, Doctor Fell. He found nothing abnormal about the boy so far as reflexes and muscular coordinations were concerned. There were no stigmata, and his glands and organs were normal. A slight deafness was noted, but insufficient to account for his difficulty. Doctor Fell's diagnosis was:

Sensory aphasia, involving mostly visual memory. Evidently a lesion, but would require complete study to work out relative importance of visual and auditory elements.

In our tests there were more evidences of defects of auditory than of visual memory. His reproduction of the drawings in year 10 was perfect, and he performed the memory portion of the substitution test normally for his years. His immediate auditory memory, however, was defective. When the material to be remembered was not arbitrary symbols, but the content of a story, his auditory memory seemed good. The real failure seemed to be in the ability to form associations between visual symbols and sounds.

In thinking over the possibilities for David for the coming year it suddenly occurred to several of us that there was one untried and promising possibility left for him in our schools, and that was the school for the blind. In Braille we had at hand a process of read-

ing in which the visual elements were entirely excluded. It was possible that he could form normal associations between touch impressions and heard or spoken words when he could not form the corresponding associations with visual impressions. When Miss Lawes, principal of the school for the blind, was consulted, she was enthusiastic about trying the experiment.

Just as we had the matter of the transfer of schools arranged David arrived one morning with a note from his mother saying that the family had decided to move to Columbus the following week. We were all exceedingly disappointed at this sudden end of our part of the thrilling experiment of finding some way to teach David to read, but decided at once to transfer it to colleagues in Columbus. We wrote a complete report of our experiences to Mr. Collicott, the superintendent of schools in Columbus, and asked him to be on the lookout for David when he enrolled. Toward the end of October letters from Columbus told us that David was found, and that Dr. C. C. McCracken, of the University of Ohio, and Doctor Goddard, of the State Bureau of Juvenile Research, were holding conferences about him and planning to allow some of the graduate students of the university to work with him. In November Doctor McCracken wrote us that David's family had returned to Cincinnati, and not long afterward David reappeared at the oral school.

By this time Miss Ferris had secured some typewriters for her class, and another boy of about David's age had been enrolled. Miss Ferris begged to have David returned to her for one more attempt before we resorted to the school for the blind. She started David and the new boy together, using the typewriter as the chief instrument of learning. The second boy, Frank, was a hunchback, a little older than David, who had never been sent to school because of his physical condition. Treatment had finally put him into condition sufficiently good for school attendance. He impressed his teachers as normal mentally, but his intelligence quotient was only 79. He and David worked together, learning first the fingering of the typewriter. Then they committed to memory Bayard Taylor's "A night with a wolf," and read each stanza, using the word-finding method. Meanwhile, they worked at the mastery of the alphabet. Frank could call the alphabet by rote, but did not know the letters by sight. David could find many of the letters, using the small word builders. Together they patiently built up the alphabet and destroyed it time after time. David seemed to learn both the letters of the alphabet and the words of the poem. At least he could find the words and letters on the board. For a time Miss Ferris thought she was succeeding, but after about five weeks it was evident that while Frank was really learning to read, David, with the same meth-

ods and an application fully as good, was not. The apparent wave of progress subsided. Tested on a list of common words, such as "who" and "was," David was baffled and helpless. Miss Ferris then recommended the transfer to the school for the blind, which took place early in February, 1921. Frank remained with Miss Ferris and by June had completed first and second grade work.

Several conferences were held with Miss Lawes during which she was made thoroughly familiar with David's history, and given copies of our various examinations and reports. Miss Burdge, the teacher who was to instruct him, also studied the records carefully and visited his home to explain the new experiment to his family. She found his mother eager to help. A series of photographs of David, from infancy down, impressed Miss Burdge very painfully with the gradual change in the child's expression from the unconscious happiness and sweet temper of his young childhood to the unhappy, baffled, brooding, discontented sense of failure—failure in spite of all his efforts and application—revealed in his later pictures and in his daily expression. Like all his other teachers, she swore an inward oath that she would teach David to read if there were any possible way of doing it.

The process of learning to read through his fingers rather than through his eyes was carefully explained to David, and he was told to keep his eyes off his work. He understood and complied with the instructions absolutely. To our joy he learned the Braille alphabet with normal speed. At the end of three weeks he had not only mastered the alphabet but was able to write simple sentences in Braille without error. Miss Burdge brought us samples of his work. At the end of a month his teachers made the interesting discovery that while he had conscientiously learned the Braille without the use of his eyes he was able to read it with his eyes as well as with his fingers. Meanwhile, he seemed to have no confusions about the Braille letters, wrote his simple sentences without errors, and seemed to be able to remember his families of words from day to day, a feat previously impossible to him. Upon making this discovery, his teachers decided (in my judgment prematurely) that there was no point in continuing with the Braille. If he could learn one set of symbols visually, they argued, he could another. Accordingly, they abandoned the Braille, and returned once more to the attack on print. The fact that David seemed to read more confidently from the very large type books prepared for the classes in conservation of vision than from ordinary sized type led Miss Lawes to send him to the oculist of the school, Doctor Stricker, for a reexamination. The doctor discovered a defect which he thought worth correcting, and David began at once to wear the glasses.

After one more month in the class, early in April, 1921, Miss Burdge brought David in to show us his progress. He read from a primer with some help. In the first paragraph of Gray's oral reading test four words had to be supplied—"woods," "wanted," "without," and "began." "After" he called "from"—obviously guessing from context. The paragraph took him over a minute. He then wrote sentences from dictation. The first one was, "The little boy can run." David wrote it without the word little, but when he was asked to read it, read it three times with the word "little" in it. Finally, by making him point carefully to each word Miss Burdge led him to discover his mistake. He then wrote from dictation: "A big dog can play"; "Baby likes to play"; and "Baby can roll the ball." Then, at Miss Burdge's suggestion that he write some sentence about a bird, he wrote, "The bird can fly to the nest"; but the word "nest" he wrote "tesn," and corrected it only after suggestion. The concentrated effort required to write these sentences it would be hard to find excelled. It seemed to us, as we looked on, that the child was entangled in a mesh of confusions, bad habits, and misunderstandings acquired during his 7 years of fruitless effort. It was as though he had never before grasped the idea that each little black word on the printed page had a distinct individuality and a meaning. Guessing, trying to supply words from context, and memorizing had become to him essential parts of reading. Apparently no conception of the definiteness and precision of reading had before crossed his mind. His task was not merely to learn the new but to get rid of most of the old.

By June we felt convinced that David really could be taught to read. He then knew 100 words by sight, confidently, and without the help of context. This result had been accomplished in spite of the fact that during the spring he was out of school five weeks with whooping cough. In order that he might not lose during the summer, we arranged to have him join Miss Burdge's summer class and go on with his instruction. Toward the end of July, David suddenly disappeared from school. When Miss Burdge went to find out why, she discovered that his mother had suddenly died. The poor woman had worked on, ill but uncomplaining, until she had literally dropped in her tracks without asking for aid. An uncle of David from a neighboring town came and took the family home with him. The town is a small one where there are no special facilities for dealing with problem children. David's uncle and aunt have an understanding of his peculiar difficulties and wish him to continue in our schools. We hope the arrangement is now made to have David live in one of the home-like children's institutions of the city while he attends school next year (August, 1921).

The explanation of the fact that learning Braille gave David his real start in mastering print is by no means obvious. In observing the process, it seemed as though starting to learn to read all over again, with a completely new set of letter symbols, was what turned the trick. The new symbols he succeeded in learning without confusion, and with a real understanding of what he was doing as he went along. The process gave him his first clear conception of what reading meant and he was then able to translate into the old printed symbols, but with great difficulty because the old symbols were already a mass of confusions. It is probable, however, that the explanation goes deeper than this. It may be that the tactual motor type of image necessary in learning the Braille was a type for which it was possible to form normal auditory and motor associations, whereas it was not possible starting with visual images. The pathways in his association tracks leading to auditory centers may be open for tactual motor cues, but not for visual ones directly. The learning of Braille may have given him control of a new type of word and letter image, into which he is learning to translate the visual perceptions before they become cues for speech or writing.

CASE 15.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Men- tal age (yrs. and mos.).	In- telli- gence quo- tient.	Construction puzzle.			Pintrner cube.		Picture com- pletion.		Substitution.								Opposites.		
					A.	B.		Score.	Age norm.	Score.	Age norm.	P 1.		P 2.		P 3.		P 4.		Age norm.	Per cent.	Grade.
						Time.	Age norm.					Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.			
1st.....	4- 8-1918	10- 4	9-10	95						20	Adult.	100	220"	100	167"	100	146"	100	127"	10	Poor.	
2d.....	9-27-1920	12-10	11- 0	86																		
Number of test.	Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.					
											None.											
1st.....	Graded opposite score 31 (10½ years).....																		II.			
2d.....											Below I.		Below I.		Below I.		Below I.		Observation.			

A PSYCHOPATHIC CHILD

CASE 16.

Fred was first examined in October, 1917, when he was 7 years and 8 months old. On the Stanford revision of the Binet scale, he measured 6 years and 8 months, giving him an intelligence quotient of 87. Fred's supplementary tests were most uneven. He failed totally to understand what was required in either the opposites or the substitution tests. In the latter, he numbered the figures consecutively and seemed totally incapable of doing anything else with the test. In construction puzzle A he made a 13-year record. He failed in B, but could do it promptly after being shown how. In the Pintner cube test he did as well as the average 16-year-old. The examiner says, "It is impossible from these records to make a diagnosis." When we saw him, he was failing in the first grade for the second time, but he had been absent a great deal. The chief complaint of the school, however, was not failure in his work, but very troublesome behavior. The teachers reported that Fred seemed interested in his work, but that he was very mean to the other children. He pinched them and hit them. When scolded, his fits of temper were terrible. Even when the only provocation was that he could not have all the attention he wanted, he would storm and scold and threaten. If he was reprimanded at school, his mother rushed to the school, made a scene, and defended her son.

Fred's physical condition was good. He was rather large and usually well cared for, though not always clean. No physical defects were discovered in his medical examination, except a tachycardia and enlarged axillary glands. He was excessively nervous. Miss Ferris's account of him says that his expression, though usually sweet and rather pathetic, could change suddenly to rage, with reddened eyes. It seemed impossible at first for Fred to sit still in the observation class. He was constantly moving in his seat and continually rising from it to sit on the desk where he would whirl from side to side, making all the movements of a parrot in confinement. If he were standing near a wall he would begin thumping it with a backward and forward movement of his body or head. He was cruel as a demon at times, striking, pinching, or otherwise mistreating some luckless mate, and then saying with tears in his eyes, "I didn't want to do it, I just did it," which was probably true.

Fred's reactions were always the unexpected. Once, in despair caused by his unruly conduct, his teacher kept him after school and spanked him. Fred rose from his chastisement, his eyes swimming in tears, put his arms gently around his teacher's neck, and kissed her. Both Fred and his mother had flashes of aesthetic appreciation and

imagination. Once, when Fred was sick, the teacher took him some daffodils. She laid one of them on his pillow. Fred loved it there, but he said shortly, "Put it into the water with the others, mamma. It is too warm. It can't be happy here." The mother obeyed his request and turned the face of the flower toward Fred, saying, "There now, it can look at you."

Fred's family consisted of mother, father, and a younger brother. The father, a wood finisher by trade, was of German birth, and an uneducated man, but a steady workman and devoted to his family. They had lived in the same two-room rear tenement for 6 years, and have continued to live there since we have known them. The rooms are large and pleasant enough, but habitually in a fearful state of dirt and confusion—as the home visitor put it, "An indescribable lot of junk was piled all over the place." The younger brother of 5 years was a helpless idiot, who lay in his bed playing with his claw-like hands and laughing or screaming senselessly. He seemed to have no control over eyes or voice. Since he had no control of his vital functions, the room was usually oppressive with disagreeable odors.

Fred's mother was a highly excitable woman who was dreaded at his former school because of the rows she made about imaginary grievances. Her education had been finished with the fifth grade and his father's with fourth grade in Germany. She had a savage affection for her children. Nothing could persuade her to try hospital treatment for the younger child because she could not bear to be separated from him. She went about the streets unkempt to the last degree, carrying the poor idiot in her arms, large as he was. She had a reputation for profanity among the neighbors and was in a continual state of quarreling with somebody. Fred's mother was devoted to him after her fashion, and would have been glad to help him with lessons had she known how. Her method of helping was to do his night work for him.

When Fred entered the class, after his year and more in the first grade, he could neither read nor write, but he knew some of the number combinations. He called letters by their phonic powers, yet he could not connect them into words. Miss Ferris thought he had a real interest in his work. Fred was a child who was kept very closely to his tenement-house environment. His parents were afraid to have him on the streets and he was not allowed to go so far as the park to play, as many of the children did. In spite of his limitation, he was able to understand a variety of stories that were read aloud, and was eager to hear them. Various methods failed to give Fred a start in reading. The word method, the comparative method, the phonetic method were of no avail. Memorizing stories, which were written on the blackboard and read aloud by the other children, and subsequently identifying the words, finally gave him a start. The type

of story which brought the puzzling common words from a subordinate to a main position (see page 17), was of great assistance to Fred in mastering stock words. Numbers he learned from dominoes and from buying and selling games. By April he could write, had partially memorized the families of numbers, could copy print into script, and had a start in reading, when his progress was interrupted with an attack of typhoid fever. He was out of school the rest of the year. His mother reported that during his convalescence his outbursts of temper were fearful and she could not control him.

In June, although he was not in school, Fred was sent back to the laboratory for a second examination. This time his mental tests showed a fairly miraculous increase. His mental age was 8 years and 9 months, 5 months above his chronological age, and his intelligence quotient was 105. Instead of failing to understand opposites, he had an accuracy of 70 per cent on an easy list. The substitution test was performed without an error, and in less than normal time. Picture completion was as well done as by the average adult (16 points) and he had 12-year records in the two figure and casuist form boards. Only the five-figure form board, a 6-year record, fell below his chronological age. His supplementary tests, therefore, would have given him an intelligence quotient of about 150. The excessive change from the previous test made us feel that great instability, rather than a characteristic mental level, was what the tests indicated.

Fred was retained a second year in the observation class. By the end of the year he had completed two grades of academic work and was very much improved in behavior. His outbursts of temper became rare. Occasionally he was still seized with an impulse to hurt one of the other children. For instance, he suddenly grabbed David by the cheek and kicked him cruelly. David defended himself and Fred came to the teacher shrieking that David had hurt him. When David explained, Fred seemed suddenly to remember and admitted that he had himself made the attack. As usual, he had no excuse to offer and seemed to wonder at himself. A physician, who happened to visit the class in January of that year, pointed Fred out as an incipient case of insanity, without having been told anything about him. However, Miss Ferris's notes of June, 1919, say that Fred had stopped swearing and was usually a manly and well-behaved child.

In the fall of 1919, Fred was transferred to an opportunity class in a neighboring school. In spite of his high quotient, he had not made up his academic work sufficiently to be returned to a regular grade. The smaller classes and manual work of the opportunity school made it, to our minds, a more suitable place for him. He was enrolled in a third grade.

Since the laboratory now had the services of a psychiatrist, Fred was referred to our Doctor Fell soon after he entered the opportunity class. Doctor Fell found nothing wrong with the child physically, except a slight anæmia. His reflexes, coordinations, and all his organs were normal. No tics, tremors, or peculiarities were observable. The doctor says.

History of violent outbursts of temper, bed wetting, nervousness, and lack of ability to progress in school would indicate a constitutional psychopathic condition of the emotionally unstable type.

In January of the same year Fred was given his third mental test. The occasion was characteristic. Fred's mother arrived with him at the office in a state of high indignation. Both she and Fred were scrubbed to an unprecedented state of cleanliness, and were even neat as to clothes. She assured us that Fred, who was as clean at school as we then beheld him, had been sent home to take a bath and get clean clothes, and that the teacher in sending him had used most offensive language to him in the presence of the class. We listened to her tale, soothed her as best we could, and meanwhile took advantage of the occasion to reexamine Fred while he was in such a glorious state of cleanliness. This time his intelligence quotient was 101, with a scattering all the way from 8 to 16 years. The only supplementary test given was Healy picture completion no. 2. In this he had an 8-year record. His educational tests were all far below the expectation of his mental age of 10 years. They were below third-grade level. In reading he did not quite fulfill a second-grade requirement, his spelling was second grade, and his arithmetic poor second grade.

In spite of his small accomplishment, Fred was promoted to a fourth-grade opportunity class the following year, and was passed to the fifth grade for the year 1921-22. In the summer he attended a vacation school. A visit to the home, in July, 1921, found the family all assembled. The idiot brother was still absorbing the loving attention of the family. Their attitude was that of the adoring mother with an attractive babe. The mother was sure he was improving and showed the visitor how he could take a step—which was an utterly impossible feat except as his mother held him and made him take a step. The child was still incapable of controlling his hands. Every day for nine days the mother was carrying the child on a long journey across the city for a nine-day prayer service which she hoped would work a miraculous cure.

Fred had been given several sets of really good tools by his parents and his father had shown him how to use them, but nothing of any importance which Fred had made could be produced. There was no sign of aptitude with his hands. The home was in its usual

state—tables, beds, and chairs all piled high with a confused mass of possessions, and dirt generously sprinkled over all.

Fred presented an unusual combination of a consistently high, though erratic, mental-test level and continued academic failure. The laboratory was particularly interested to discover how long this state of affairs would continue. When Miss Ferris made her visit in July of 1921, she made an appointment for another test for Fred. On August 4 he arrived at the laboratory, once more in an immaculate state of cleanliness and accompanied by his mother, his father, and his idiot brother. The mother was particularly proud of the progress that the idiot had made. She again insisted that he had learned to walk, but her demonstration of his powers showed only too well that his walking took place only in the realm of his mother's ardent and pathetic hopes.

Fred's mental age in this, his fourth examination, proved to be 9 years and 11 months, one month less than in the examination given a year and a half earlier. His intelligence quotient was only 86. He failed this time in several tests in which he had succeeded before—the problems of fact in year 14 and the repetition of six digits in year 16. This reduction of intelligence quotient is what we had been expecting in Fred's case for several years. If it ever goes up again materially, we can only feel that the vagaries of the psychopathic consciousness are even greater than we had supposed possible.

Fred's educational tests gave him a rating of second grade in oral reading and less than third grade in silent reading, both in rate and in comprehension. His arithmetic is much better. Measured by the Woody scale for fundamentals, he ranks at the end of the fourth grade in addition, fifth grade in multiplication and subtraction, and sixth grade in division. We shall watch his progress in the fifth grade with great interest.

Fred's future is certainly enigmatic. He seems to have within him the seeds of mental disease or crime, or both. Only the most sheltered environment and skilled management could hope to make of him a self-supporting citizen of decent behavior.

CASE 16.

Number of test.	Date of test.	Chron. age (yrs. and mos.).	Men- tal age (yrs. and mos.).	In- telli- gence quo- tient.	Construction puzzle.				Pin- tner cube.			Picture com- pletion.			Substitution.								Opposites.									
					A.		B.		Score.	Age norm.	Time.	Score.	Age norm.	Time.	Score.	Age norm.	Time.	Acc.	Time.	Acc.	Time.	P 4.	Age norm.	Per cent.	Grade.							
					Time.	Age norm.	Time.	Age norm.																		Acc.	Time.	Acc.	Time.	Acc.	Time.	Acc.	Time.
1st.....	10-22-1917	7- 8	6- 8	87	22"	13+	5'+	10	8	16	9	8 Adult.			Complete failure.			100 164"			100 165"			100 104"			12			0 Failure.		
2d.....	6-14-1918	8- 4	8- 9	105							16							100 143"			100 104"						70 Average.					
3d.....	1-21-1920	9-11	10- 0	101																												
4th.....	8- 4-1921	11- 5	9-11	86																												
Number of test.		Miscellaneous.										Reading.		Arithmetic.		Spelling.		School grade.														
		5-figure board 205" (6 yrs.); 2-figure board 24" (12 yrs.); casuist 24" (12 yrs.).										Below II		II		II		I. Observation. III. Opportunity. IV. Opportunity.														
1st.....																																
2d.....																																
3d.....																																
4th.....																																

1 Failed.

DISCUSSION OF RESULTS.

In discussing the results of an experiment like ours, one is constantly hampered by the fact that there is no control experiment. It is impossible to say what would have happened had these children been left in the regular classes. We can only state our convictions as to the contribution made. In the first place, we believe that many of these children would never have learned to read fluently without the special assistance of the observation class. It is not necessary to dilate on the practical importance of being able to read. Even more important than the actual accomplishment of the class was the change of attitude toward school and school work which was observable among the children. In our theorizings about education, we often unconsciously assume that it is only those of superior ability who can acquire a love of learning and experience the joy of independent intellectual accomplishment. Those of inferior ability we mentally condemn to a process of having learning inserted into them by surreptitious methods—a process in which the intellectual endeavor and the joy of accomplishment belong solely to the teacher. Our experience with the observation class convinces us that if the task can be properly adjusted to the degree of ability of the child, it is possible for many of the inferior children to experience the same love of learning and the same desire for independent work which is characteristic of the higher levels of accomplishment.

Before coming to the observation class, these children had displayed no enthusiasm for school and no pleasure in school work—a universal and thoroughly understandable frame of mind among school failures. After their stay in the observation class most of them loved school. Before coming to the class none of them knew what it was to apply themselves to school work. They had gained no glimpse of the nature of intellectual endeavor. During their stay in the class some of them laid hold upon learning with real zeal and zest. Many more acquired a spirit of work and a desire to do things for themselves—a consciousness that only what they acquired through their own efforts was of real value to them, which proved to be a permanent asset throughout their school careers, and we hope will be equally so long after their small quota of formal education is complete.

From the point of view of the school and the teacher, the observation class performed a triple service. It removed from the large classes the most difficult of the problem children. It saw justice done to these same children by giving them the benefit of the doubt as

long as any prospect of success remained, and, lastly, it furnished opportunity for a gradual diagnosis of the real nature of the difficulty, which will in the long run increase and make more accurate our power of estimating the capacities of children. Finally, the experiment has yielded a small mass of scientific data which is at least suggestive. We shall discuss, first, the results of the mental tests; second, their relation to other diagnostic factors; and, third, the adequacy of classroom provision for children of this type.

There is one exceedingly interesting, and we believe scientifically important, trend evident in the successive mental tests of these children. An inspection of the table on page 113 reveals it at once, if it has not already struck the attention of the reader in considering the successive cases. In every instance, except those of the children who were ultimately shown to be feeble-minded, and one of those who was suffering from special disabilities, the intelligence quotient rose while the child was in the observation class and fell after he left it. The amounts of the increases, exclusive of the defectives and the special disability cases, were as follows:

Landon	7
Curtis	15
Henry	7
Fred	18
Giovanni	5
Jean	6
Harvey	3
William	8
Vivian	3
Ethel	6
Total	78

The average increase of eight points and all but two of the individual increases are large enough to be considered significant. The absolute uniformity of the trend is almost uncanny. The reexamination of these same children after from a year to a year and a half, in a regular grade, shows an equally uniform fall in intelligence quotient. The amount of decrease is as follows:

Landon	19
Curtis	7
Henry	5
Fred	4
Giovanni	10
Jean	3
Harvey	5
William	10
Vivian	12
Ethel	4
Total	79

The average decrease for the group of eight points is exactly the amount of average increase at the end of a year in the observation class.

For the children whom we were ultimately forced to class as defective, in no instance did an increase take place, and in three of the four cases there was a decrease even during the stay in the observation class. The facts are as follows:

	Decrease.
Matthew-----	7
Luella-----	0
Catherine-----	1
Wade-----	9

The further decrease, represented by the last test available, is as follows:

Matthew-----	5
Luella-----	15
Catherine-----	9
Wade-----	No record.

For the two boys with specialized defects, the intelligence quotients do not show a constant trend. Everett's went up during his stay in the observation class, from 89 to 96, and came down to 92 afterward, like that of the normal children. His level is higher now than when we first saw him. David's quotient fell from 95 to 86 while he was in the class. It is interesting to note that Everett was at least partially successful in his work, whereas David failed.

The improvement in the supplementary and performance tests, during the period of residence in the observation class, is equally striking, but less easy to summarize numerically. The only instances in which a test was performed less well after the observation class training than before, were construction puzzle tests,—the very type of test in which the memory of a previous successful performance might have been expected to count for most. In the case of the substitution test a different key was used each year. A memory of the previous test would thus have been a hindrance, not a help. The improvement in ability to perform this test is particularly striking. The opposites test also shows a uniform improvement during residence in the class. In the examinations, made after the children had been returned to the regular grades, very few performance and supplementary tests were used. Instead, more time was given to standardized educational tests.

When we first became aware of the uniform increase in intelligence quotient of all except the defectives in the observation class, we thought it possible that unconscious tutoring on the part of the teacher, who was familiar with the content of the tests, might account for it. Accordingly we made an analysis of the successes and failures in each test of the Stanford revision for the first three tests.

We could discover no evidence that the tests most open to instruction were the ones in which improvement had taken place. Indeed we could discover no uniformities whatever with regard to the elements of the series responsible for the increase.

Our next idea was that we had demonstrated that superior teaching could bring about a permanent increase of intelligence quotient. A real dependence of mental-test level upon the degree of school success seemed to be implied. Fortunately, however, we refrained from drawing this seemingly probable conclusion, and watched the experiment further.

Our discovery that after a return to the regular class, the intelligence quotients of the group fell as much as they had risen while in attendance, was a complete surprise. The only way in which we are able to interpret it is that the stimulating atmosphere which surrounds the children in that class actually increases their power of performance while it lasts. It is as though the constant, personal, stimulating influence of the teacher infuses into the children an alertness and a capacity for comprehension which they can not command when thrown on their own resources. Whether the gain in power could be consolidated and made a permanent possession if the children could be left for a longer period in so favorable an environment, we do not know, though we are inclined to think it possible. The laboratory has in its possession an interesting series of tests of defectives of adolescent age who belong in families of wealth and have been given unusual advantages in care and in individual teaching. The intelligence quotients of these children have been unexpectedly high. It is, of course, impossible for us to say what their intelligence quotients would have been without the constant skilled individual teaching which they had enjoyed for years, but we were convinced in our own minds that had they belonged in families similar to those of our observation class group, their mental-test levels would have been materially lower as adults.

The most striking moral of the tale of our observation class is that of the many lines of evidence and information necessary to a real understanding of problem children. As in so many other instances, that which we demonstrate for problem children will doubtless hold good in its essentials for all children. The determination of mental level is one important element in the diagnosis of these cases, but it is only one. To give it its just value in relation to physical, social, educational, and hereditary factors is one of the important tasks of applied psychology. The number of cases which we have analyzed—only 16 in all—is too small a basis for final or convincing demonstration of the point, but we can not refrain from discussing some of the suggested relationships of these various factors which future investigations may prove or disprove.

In the first place it is worth while to point out that it was the intelligence quotient, in its relation to educational progress, which defined the problem for us. In every instance the children with whom we worked displayed a discrepancy between intelligence level as measured by the quotient and expected academic progress. The primary importance of measuring the intelligence quotient is evident. It is equally striking that if we had depended on intelligence quotient alone in making a prognosis of success or failure we should have been grossly misled. Jean, who had one of the lowest quotients, proved to have the highest rank in terms of ultimate success, while Fred, who had the highest quotient, is one of those of least accomplishment. The factors which might have helped us to a favorable prognosis for Jean were previous educational neglect of a gross sort, good health, an excellent disposition and social attitude, and good practical ability. Her home environment was unfavorable in that it contained no elements of help or stimulation to school work, and was not harmonious, but favorable, in that it furnished an atmosphere of personal affection and interest. In the case of Fred all the factors were favorable except his psychopathic heredity. He had good health, fairly good care, a home atmosphere of great affection, interest, and harmony (except for bursts of temper), and good school advantages previous to the observation class. The psychopathic strain in the family is shown by the presence of the idiot brother and the almost insane behavior of the mother. Fred's sudden burst of unmotivated, violent temper, and his fits of cruelty to other children, for which he can assign no cause, are part of the same picture. It would have been impossible to predict how successful school training might be in overcoming marked psychopathic tendencies. The outcome in this case is not hopeful. It is interesting to note that success has been greater in overcoming the overt expressions of violence than in inducing normal school progress.

In the case of the four children who were ultimately diagnosed as defective, all were in good physical condition. Catherine and Matthew had conspicuously good health, and Wade had no defects. In the case of Luella we were inclined to think that the shock effects of the accident which had mutilated her left hand and retarded her progress in learning to talk, might be a factor in her school failure. If so, the injury produced was too deep to be cured by the social or educational methods of our experiment. We are now much more inclined to think the defect was congenital. All of these children had a history of good previous educational opportunities. They had spent from two to three and a half years in good city schools without visible progress. All of these children had good homes. Those of Luella, Catherine, and Matthew were good both physically and

spiritually. Wade had good care but bad management. In only one instance, that of Matthew, were we able to learn of defective heredity. Matthew's father, who had never learned to read or write, though all the rest of his family were educated people, seemed a sufficient explanation of his son. Our histories of these families were by no means satisfactory enough to enable us to feel that we knew their heredity. None of these children except Wade was the simple and easily recognized defective. The others had special abilities not often found in conjunction with their degree of mental inability. Matthew's flashes of wit and unexpected understanding of events and situations, Luella's practical ability, and Catherine's social genius are not the usual possession of the defective. The general conclusion which we can draw is that the combination of good health, good school opportunities, and a good home with bad academic failure of two or more years, means a very unfavorable prognosis in spite of some striking special abilities, and an intelligence quotient somewhat above the usually accepted limits of defect.

The group of children who are classed as at least partial successes present a striking contrast to the defectives. Only one of them, Jean, was in really good physical condition at the time of the first examination. Landon was in fairly good health though very much undersized. The others were all suffering from various degrees of under nourishment, anæmia, and diseased tonsils, adenoids, and teeth. Only one of these children, Jean, had suffered from lack of school facilities, though irregular attendance had been a factor in three cases. The chief contrast between these school histories and those of the defectives lies in their shorter period of school training. Most of these children had school careers of not more than two years previous to their first examination. The home conditions, like the physical condition, of the successful group are much below the standard of the defectives. Only one of them, Harvey, had a home in which both the physical surroundings and the family atmosphere seemed reasonably good. All of the others suffered from excessive poverty, insanitary living conditions, a bad family atmosphere, or all three. Too little is known of the family histories of this group to be able to take account of factors of heredity. The status of members of the immediate family—parents or brothers and sisters—is our only real evidence on this point.

As a group the previous histories of these children contain possible factors to explain failure in school—bad health and poor home environment—which affect both physical and mental condition. In trying to explain the relative improvement or lack of improvement, each case must, of course, be considered individually. Very few generalizations can be made. It is interesting to note, however,

that operative correction of physical defects, such as removal of diseased tonsils and adenoids and teeth, played no part. None of the parents heeded our advice on these points, and we were not in a position to bring pressure to bear upon them. The improvement took place in spite of the continued physical difficulties. It is of course probable that a greater improvement could have been attained if the diseased tonsils had been removed. The improvement in health alone, even though it bore no direct relation to school progress, would make the correction of physical defects worth while. It seems to be true, however, that the presence of even badly diseased tonsils, adenoids, and teeth is not an insurmountable obstacle to school progress, provided the educational methods are sufficiently good. It is possible, however, that these same children might have succeeded under ordinary classroom conditions had it not been for their poor physical condition. In no instance was physical condition alone held responsible for failure. In the case of William it played a larger rôle than in any other, and he was one of the most successful in school work. Among these children physical defects were usually united with poor home conditions. Sometimes poverty, with its attendant poor food and insanitary quarters, was the only other handicap. This was the case with Vivian, Landon, and Harvey. More frequently the home atmosphere or management contained bad elements, such as William's abusive father and careless mother; Henry's mother, with her excessive devotion to the movies; Curtis's drunken father, coquettish mother, and the family divorce; Giovanni's drunken mother and insane uncle; and Ethel's mother and sister of questionable morality. These home conditions, also, it was beyond the power of the school to correct. The improvement of the observation class took place in spite of them.

Personal characteristics of the children also played their part in the outcome. In one case, that of Harvey, neither physical condition, educational history, nor home conditions or atmosphere seemed sufficiently bad to account for his failure. Certain obsessions which we discovered, and evidences of an abnormal preoccupation with matters of sex, made us feel that in his case the chief cause of failure lay in mental distractions which prevented attention to his school work. Curtis's failure, too, in the face of a fully normal mental level, was too great to be accounted for by any factor except a perturbed spirit, caused in his case by the divorce of his mother and father, for both of whom he had a real affection, and the subsequent family squabbles. Giovanni's complete failure during his early years in school we attributed not merely to neglect, bad physical condition, and limited ability, but to his anxious and distracted spirit. Landon, too, suf-

ferred from a sensitiveness and suggestibility which made success impossible except under an exceptionally stimulating and encouraging atmosphere. Whether or not a given family or school situation proved to have a disturbing and inhibitory effect on the child's progress depended very largely on the disposition of the child. Some of these children seemed crushed by situations which others were able to disregard.

Let me summarize this discussion by attempting an outline of procedure in the diagnosis of young school failures.

(1) The first point to consider is the mental level of the child. It may be low enough to be a sufficient explanation of the failure.

(2) The second point to consider is the child's academic history. Regular attendance at good schools for a period which should have resulted in visible school progress, but has not, is an unfavorable symptom. Very irregular attendance or very poor school opportunities are favorable symptoms.

(3) The third point for investigation is the child's state of health. The points of most common importance are the condition of vision and hearing, the nourishment of the child, the state of tonsils, adenoids, and teeth, and the possibility of anæmia, tuberculosis, or syphilis. The glands of internal secretion may prove to be of great importance to mental state, but the evidence is not yet convincing. In our experience, we have had few instances in which physical condition alone seemed to us responsible for bad school failure. The fact that it is a contributing cause, and should be looked after even if it were not, is incontestable.

(4) The fourth point, and the most difficult of determination, is the general mental tone and attitude of the child. Under this head the points to consider are: (*a*) Mental distraction due to anxiety usually caused either by poverty, or by unhappy relationships in the family, such as constant quarreling of the parents, immoral behavior of the parents, divorces, or cruelty toward the children. (*b*) Personality conflicts between the child and his parents or between the child and his teachers. (The present series contains no instance of this type.) (*c*) Obsessions or fears, having to do with religious ideas, or with sex. (*d*) Special disabilities (both instances in our series were probably the effect of previous diseases of the nervous system). (*e*) Character defects, such as excessive shyness, or abnormal stubbornness, which as far as our present knowledge goes may be congenital, or may be due to the experiences of infancy and the preschool period. (*f*) Psychopathic conditions which are quite certainly hereditary in children of this age, and can not be sharply delineated from what we have called character defects, except by their more extreme and unaccountable manifestations.

The relative importance of these mental factors differs enormously from case to case. Those due to external causes, such as poverty or unfortunate family relationships, are the most hopeful, both because the cause may be removed, and because the mental attitude may be directly modified through personal influence. In general, the larger the hereditary factor, the more difficult the task of modifying the mental state. However, since we can not know at present which traits are truly hereditary and which may have been induced by early experience, we can only assume that all are modifiable by wise treatment, and do our best. It is somewhat surprising that in the cases in which we have thought the hereditary factor largest we have been more successful in reforming behavior than in inducing school progress.

(5) The fifth and final point is the heredity of the child. It is exceedingly important to know, but very difficult to get, except in so far as the immediate family reveals it, unless one has facilities for social research which are not now at the command of any school system. A definite knowledge of a psychopathic heredity is, of course, a very unfavorable factor.

The social conditions of the child have not in this summary been treated as a separate head, because it is as they modify the health or the mental attitude of the child that they enter into a diagnosis. If social conditions were playing a part, the fact necessarily comes out in making an adequate mental and physical examination. The very same social factors which may in one child set up serious anxiety states can be met and disregarded by another. A degree of poverty, which when combined with poor management may mean serious undernourishment, may with good management have no unfavorable effect on health. It is the reaction on the child, not the external social states, which needs to be studied. The necessity for extending both the mental and the physical diagnosis into the home background is, of course, obvious.

If the school of the future is to be equipped to meet problems such as those of our observation class, it is evident that a great extension of the extra-classroom facilities of the school must take place. Hundreds of children are failing in our schools for causes which lie primarily outside the classroom. These failures can not be properly diagnosed, much less wisely treated, unless the school has facilities for securing careful mental and physical examinations, social investigations, and family histories of the children. Progressive school systems already recognize the obligation to extend school functions in these directions. The existence of psychological clinics, of school medical clinics, and of visiting teachers demonstrates the point. The difficulty is that service of this type is as yet so limited,

even in the best of our systems, that it touches but a small fraction of the need. In the psychological clinics we need a far larger staff in proportion to the school population than any system as yet possesses. The head of such a department should have the best training the world affords. In our school medical clinics we also need more physicians, better trained physicians, and far better facilities for laboratory diagnosis than any system as yet possesses. In the realm of social investigation the schools are perhaps least well-equipped of all. In some school systems an attempt is being made to provide for a knowledge of home conditions by having the regular classroom teachers do the home visiting. When one knows the exactions of the modern classroom of 30 or more children, it seems unreasonable to expect the teacher to have time or strength outside of her teaching hours to do adequate home investigation. Some contact of the teacher with the home and the parents is essential, but the kind and amount of investigation necessary to serve as a basis for the solution of home problems which are factors in school failure can not be undertaken by the regular teacher. Not only is the time at her disposal inadequate, but the technique required for good social investigation is a special one not at the command of the average teacher. The type of person required is the trained social worker. Our visiting teachers, most of whom are as yet paid by private organizations, are demonstrating the type of service needed. Without doubt the logical place to develop this type of service is in the attendance office of the schools. The gradual evolution of the attendance officer from the mere police officer of the past to the visiting teacher of the future is one of the most important and far-reaching phases of modern education. To accomplish the result both the number of officers and the educational requirements for the service must be greatly increased.

While it is necessary for the school to have as part of its own organization all the facilities necessary for diagnosing its own educational problems, it is not necessary or possible that it should have all the resources for treatment. It can not maintain its own hospitals for the treatment of remedial physical defects. It can not become a case working agency for the complete solution of family problems. It can not assume control of all the recreational facilities of the community. What the school can do—and do far more efficiently than any other agency—is to become a center through which medical and social problems are wisely referred to the agencies of the community best fitted to deal with them. The community-wide contacts of the school and its hold on the family through the child give it a strategic position for the discovery and diagnosis of mental, physical, and social ills which no other agency can possibly equal. Give the school an adequate staff of psycholo-

gists, of physicians, and of social workers for determining the real causes of school failure, give it the necessary resources for educational treatment, and let it refer to the medical, case-working, and recreational agencies of the community for the treatment of the noninstructional phases of the problem.

While the extra-classroom resources of the school are most defective, it is also true that classroom facilities for meeting the problems of school failures are by no means adequate. Most school systems have classes for defectives, but very few have a sufficient number of them to accommodate all the defective children. Many schools have special classes for backward children, but few of them have a sufficient number of such classes or satisfactory curriculum. Very few schools have diagnostic classes of the type described in this study. The number of classes in Cincinnati (three at present) is merely enough to demonstrate the kind of service which may be performed, but totally inadequate to furnish care to the hundreds of children who need it. One type of class which, so far as the writer is aware, is not yet developed in any school system but which is needed, is a class for psychopathic children who are not also defective. These children are few in number but are a very disturbing element in any classroom and can not be adequately studied and helped in any type of class now in existence. The best provision for them would be the establishment of a school for psychopathic children in a hospital where the psychiatric service is well developed. The type of cooperation could be the same as that for the crippled children—the teaching furnished by the public schools and the medical supervision by the hospital staff. The children sent for observation and treatment could then be taught without disturbing the progress of other children who have troubles enough of their own without being compelled to endure the vagaries of the somewhat unbalanced. At the same time a system of preventive treatment could be worked out for the psychopathic child.

All of the suggested additions to school facilities, both those for extra-classroom resources and those for added types of classes, mean more money spent upon our school system. No teacher and no social worker should hesitate to insist that the most vital and fundamental undertaking of the community is that of securing wise and adequate education for children. No matter which of our social ills is attacked, the ultimate remedy is always found in preventive measures, and the carrying out of a preventive program always means more education for the community. Something can be done through added instruction and information of adults, but the really vital and permanent improvement of society rests upon the better preparation of the next generation to avoid the mistakes of this. It is not too much to say that if every child could be adequately studied and education

really adapted to the needs of the individual child, most of the problems of vice and crime would disappear. Children are spoiled in the making in ways that we see and understand, and yet, at present, we stand and look on, powerless to prevent the havoc, not so much from lack of knowledge as from lack of resources. Provide adequate clinics—mental, physical, and social; adequate school systems; and adequate institutions for the feeble-minded and the psychopathic, who prove during their period of education unable to adapt themselves to conditions outside of institutions, and most of our reformatory and penal institutions could be done away with.

For those who believe that the regeneration of society necessarily rests upon a more adequate and wiser education of the young (and every teacher should believe it), modesty in demanding more money for education is cowardice. The community at large must be made to see the situation as clearly as the educator and the social worker, and then the money will be forthcoming.

Summary of successive examinations—Stanford revision.

Case number.	Number of test.	Date of test.	Chron. age (years and mos.)	Mental age (years and mos.)	Intelligence quotient.	Case number.	Number of test.	Date of test.	Chron. age (years and mos.)	Mental age (years and mos.)	Intelligence quotient.
1st....	1	2- 1-1917	9- 5	7- 7	80	9th....	1	1-31-1917	9- 6	7- 2	75
	2	6-13-1918	10- 9	9- 4	86		2	6-13-1918	10-11	8-10	81
	3	1-23-1920	12- 5	10- 4	83		3	1-28-1920	12- 6	9- 7	77
	4	3-23-1921	13- 7	11- 6	85	10th...	1	10-22-1917	7- 5	6- 0	81
2d....	1	1-16-1917	7- 5	6- 5	86		2	2-20-1918	7- 9	5- 7	72
	2	6-12-1918	8-10	8- 3	94	11th...	1	5-11-1917	9- 8	8- 4	86
	3	1-22-1920	10- 5	8- 9	84		2	6-13-1918	10-10	9- 4	86
3d....	1	3-20-1917	7- 0	5-10	84		3	1-16-1920	12- 5	8-10	71
	2	6-14-1918	8- 3	7- 6	91	12th...	1	1- 9-1917	9- 5	7- 8	81
	3	1-23-1920	9-10	8- 6	86		2	6-14-1918	10-10	8- 8	80
	4	3-22-1921	11- 0	9- 5	85		3	2- 3-1920	12- 6	8-10	71
4th....	1	3-27-1917	7- 7	6-10	90	13th...	1	11-17-1916	8- 6	7- 6	83
	2	6-12-1918	8- 9	8- 2	93		2	2-20-1918	9- 8	7-10	81
	3	1-28-1920	10- 5	8- 6	81		3	1-23-1919	10- 7	8- 6	80
5th....	1	1- 9-1917	9- 0	7- 4	81		4	1-15-1920	11- 7	8-10	76
	2	6-12-1918	10- 6	9- 3	88	14th...	1	4- 4-1917	9	8	89
	3	3- 2-1920	12- 3	8- 6	69		2	11-24-1917	9- 8	8- 7	89
6th....	1	2-14-1917	6- 7	5- 6	84		3	6-12-1918	10- 2	9-10	96
	2	6-13-1918	7-11	7-10	99		4	3-11-1920	12	11- 1	92
	3	1-28-1920	9- 6	8- 9	92	15th...	1	4- 8-1918	10- 4	9-10	95
7th....	1	2- 8-1917	7- 8	6-10	89		2	9-27-1920	12-10	11- 0	86
	2	6-13-1918	9	8- 3	92	16th...	1	10-22-1917	7- 8	6- 8	87
	3	1-28-1920	10- 8	9- 4	87		2	6-14-1918	8- 4	8- 9	105
	4	8- 8-1921	12- 2	10- 2	83		3	1-21-1920	9-11	10- 0	101
8th....	1	3- 6-1917	7-10	6- 4	81		4	8- 4-1921	11- 5	9-11	86
	2	6-12-1918	9- 1	7-10	86						
	3	1-26-1920	10- 9	8- 2	76						
	4	6- 8-1921	12- 1	9- 6	79						

¹ Yerkes point scale.



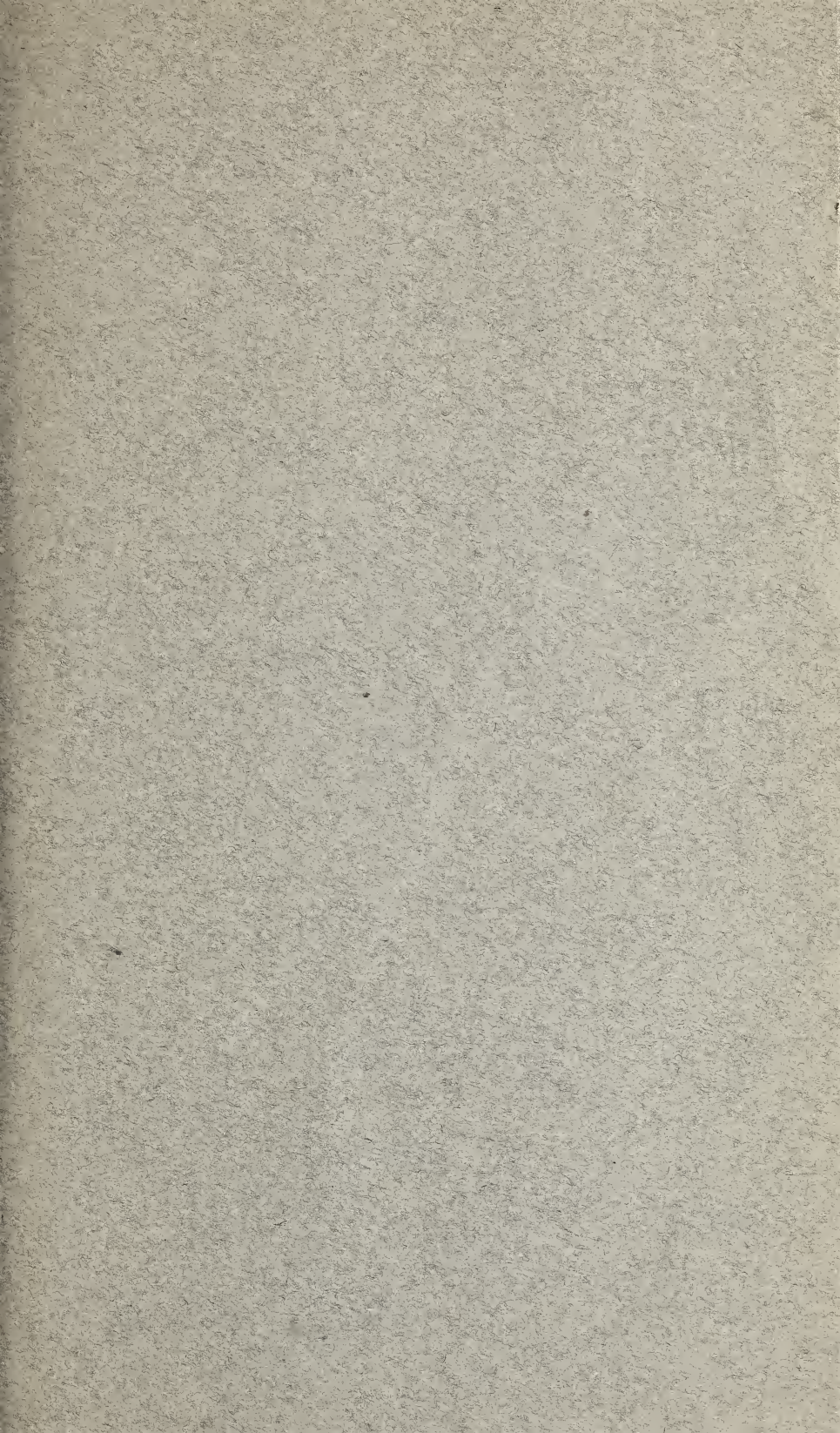
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